

# A Profile of Health Among Massachusetts Adults, 2007

Results from the Behavioral Risk Factor Surveillance  
System

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HEALTH SURVEY PROGRAM  
BUREAU FOR HEALTH INFORMATION,  
STATISTICS, RESEARCH, AND EVALUATION  
MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



December 2008

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# Massachusetts Department of Public Health

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## Health Survey Program

Bureau of Health Information, Statistics, Research, and Evaluation

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Results from the Behavioral Risk Factor Surveillance System

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*December 2008*

# ACKNOWLEDGEMENTS

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# NEW IN THIS REPORT

We have made changes in the presentation style and content of this year's report.

We summarize the statistically significant differences in health indicators in the beginning of the report (summary of results). More detailed information may be obtained from the tables and charts in the back of the report.

- To ensure greater clarity and organization of the Summary of Results, we no longer list results by health topic. Instead, the results are grouped by indicators and disability status (for example gender, race/ethnicity, and income) to highlight differences among socio-demographic groups across many different health topics.
- Readers who wish to see results listed by health topic may refer to the main body of the report and to tables in the back of the report. The tables contain the results grouped by health topic and socio-demographic factors as they were previously.

We recognize that identifying and eliminating health disparities is a priority for the Massachusetts Department of Public Health, and we wish to present our data to make this report an accessible, meaningful, and useful tool for people working to achieve this aim.

This year the report presents time trends by race and ethnicity in order to focus the discussion upon these particular health disparities in Massachusetts.

- These trend charts focus not only on the health issues addressed in the 2007 Massachusetts BRFSS, but also provide information about racial and ethnic differences in past years.
- Only statistically significant disparities and statistically significant trends over time among racial and ethnic groups are discussed in the text. All percentages in the trend analysis are age-adjusted to a standard population (U.S. 2000) to ensure that age is not a confounding factor in the analysis. See p.7 for more details.

Some new variables and measures have been added to this report:

- A section on suicide and suicide survivors has been added to highlight characteristics of suicide attempts and attempts to seek help;
- "Heart disease" is divided into the subcategories of "myocardial infarction" and "angina"
- A section dealing with "pre-diabetes" in addition to "diabetes" has been added due to the fact that awareness of pre-diabetes is increasing as more adults are being diagnosed with the condition and this topic focuses more on prevention;
- Information about former smoking has been included;
- The report profiles the health of adults, but childhood asthma is also an important measure of health. The new section examines childhood asthma in Massachusetts as reported by an adult in the home, while previous reports focused only upon adult asthma.

# Introduction

The Behavioral Risk Factor Surveillance System (BRFSS) is a continuous, random-digit-dial, landline-only telephone survey of adults ages 18 and older and is conducted in all states as a collaboration between the federal Centers for Disease Control and Prevention (CDC) and state departments of health. The survey has been conducted in Massachusetts since 1986. The BRFSS collects data on a variety of health risk factors, preventive behaviors, chronic conditions, and emerging public health issues. The information obtained in this survey assists in identifying the need for health interventions, monitoring the effectiveness of existing interventions and prevention programs, developing health policy and legislation, and measuring progress toward attaining state and national health objectives.

Each year, the BRFSS includes a core set of questions developed by the CDC. In 2007, these questions addressed health status, health care access and utilization, overweight and obesity status, asthma, diabetes, immunizations, tobacco use, alcohol consumption, HIV/AIDS testing, and other selected public health topics.

In addition to the core CDC questions, the Massachusetts Health Survey Program, in collaboration with Massachusetts Department of Public Health programs, added a number of topics to the surveillance instrument including environmental tobacco exposure, disability and quality of life, breast and colorectal cancer screening, sexual violence, and other selected topics.

Interviews were administered in the respondents' preferred language, with a choice of English, Spanish, or Portuguese. Interviews were conducted with 70% of those determined to be eligible to participate in the survey. In 2007, 21,507 interviews were conducted among Massachusetts adults. To increase the number of respondents who belong to racial and/or ethnic minority groups, the cities of Boston, Worcester, Springfield, Lawrence, Lowell, Fall River, and New Bedford were oversampled.

## ABOUT THIS REPORT

This report summarizes selected results from the 2007 Massachusetts BRFSS. The key findings, time trends and racial gaps are discussed in the Summary of Results. In each section of the report, a description of survey questions used to obtain estimates for key variables is provided along with an explanation of the importance of each indicator for public health. Tables detailing the overall estimates and estimates by demographic and socioeconomic characteristics (gender, age, race-ethnicity, disability status, education, annual household income, and Massachusetts health service regions) are provided in the main body of the report in the form of crude percentages. The trend analysis at the back of the report contains a table with age-adjusted figures (where possible) comparing 2007 results among different racial and ethnic groups.

United States (US) median data for all participating states and territories for the same variables are presented for 2007 in a separate table to enable comparison between Massachusetts and national data.

In Appendix I of the report, tables detailing age-adjusted percentages for 2007 indicators and their 95% confidence intervals are presented.

A comparison of 2007 Massachusetts results to national data and Healthy People 2010 Objectives is also provided in Appendix I.

All percentages in this report are weighted (see definition in next section) to the total Massachusetts population in 2007 in order to reflect both the probability that an individual is selected to participate in the survey and differential participation by sex, age, and race-ethnicity.

Readers should be aware that all data collected by the BRFSS are based on self-reported information from respondents. Self-reported data may be subject to error for several reasons: an individual may have difficulty remembering events that occurred a long time ago or the frequency of certain behaviors; some respondents may over-report socially desirable behaviors or under-report behaviors they perceive to be less acceptable and respondents may also report certain risks, behaviors and perceptions differently due to their respective cultural and linguistic backgrounds. Additionally, because the BRFSS surveys a randomly selected sample of Massachusetts adults, these results may differ from another random sample to some extent simply due to chance.

## TERMS, DEFINITIONS, AND STATISTICAL METHODOLOGY USED IN THIS REPORT

The BRFSS data are **weighted** to take into account differences in probabilities of selection due to the telephone number, the number of telephones in a household, and the number of adults in a household. Adjustments are also made to account for non-response and non-coverage of households without telephones. All the weighting factors are multiplied together to get the final weight for each respondent so that the weighted BRFSS data represents the adult population of Massachusetts.

The data presented here are univariate, descriptive percentages that are either crude or age-adjusted. No multivariate analysis was performed on this data, and thus this report contains no inferences about causality.

The **crude percentage** is the weighted proportion of respondents in a particular category. When percentages are reported in the text of this report, they are referring to crude percentages. The crude percentage of respondents used in this report reflects the burden of a certain health status indicator in a specific group of the population e.g. age group, gender etc.

Although the overall sample size for 2007 was 21,507, the underlying size of the sample used to produce particular estimates varies depending on whether the data come from the core of the BRFSS or one of the sample splits through which optional modules and Massachusetts-added questions are administered. The 2007 BRFSS contained three splits: split 1 contained 6878 respondents, split 2 contained 4799 respondents, and split 3 contained 9830 respondents.

The underlying **sample size (N)** in each cell of the presented tables is the number of people who answered “yes” or “no” to the corresponding question. The crude proportion is a weighted ratio of those who answered “yes” to the corresponding question versus all who responded to the question.

The **age-adjusted percentage** is a weighted average of the age-specific proportions. The projected 2000 US population was used as a standard for the calculation. These estimates are presented in tables in the Appendix of this report. The age-adjusted percentage is a single, calculated number. Age-adjustment is done in order to be able to compare population subgroups with potentially different age structures (e.g., Hispanic vs. White non-Hispanic). The reader should exercise caution when using age-adjusted percentages for the comparison of survey data subgroups. While the estimates have been adjusted by age, other factors like gender, income, or education and their possible correlation may also have an impact on the results of subgroup comparisons.

**The US median** is calculated for the estimates from all participating states, the District of Columbia, and territories for each respective indicator when available. The values are ordered from lowest to highest and the middle value is then chosen (if the number of values is odd) or calculated as the average of the two middle values (if the number of values is even). The median then represents a value for which half of the states have higher estimates and half of the states have lower estimates.

**The 95% confidence interval (95% CI)** is a range of values determined by the degree of variability of the data within which the true value is likely to lie. The confidence interval indicates the precision of a calculation; the wider the interval the less precision in the estimate. The 95% confidence intervals used in this report for crude and age-adjusted percentages are the indicators of reliability (or stability) of the estimate. Smaller population subgroups or smaller numbers of respondents yield less precise estimates.

**Suppression of the presented estimates:**

- a) Estimates and their 95% confidence intervals are not presented in the tables if the underlying sample size is less than 50 respondents.
- b) Following recommendations of the National Center for Health Statistics, data are not presented in the tables if a ratio of standard error to the estimate itself exceeds 30% (relative standard error of greater than 30%). Standard error of the estimate is a measure of its variability. Bigger standard errors yield wider confidence intervals and less reliable estimates [1].

**Statistical significance** (at the 95% probability level) was considered as a basis when we used the terms “more likely”, “less likely”, “about the same”, “increase” or “decrease.” Differences between percentages for respective subgroups are presented when a difference is statistically significant.

We considered the difference between two percentages to be statistically significant (with 95% probability) if the 95% confidence intervals surrounding the two percentages do not overlap, which is a conservative statistical test for determining statistical significance [2]. We use the terms “**more likely**” or “**less likely**” when comparing percentages that met the criteria for statistical significance.

**Disability** was defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

**Race-ethnicity categories** in this report include White, Black, Hispanic, and Asian. When referring to White, Black, or Asian, these categories include only non-Hispanic respondents. All respondents reporting Hispanic ethnicity are included in the Hispanic category regardless of race.

**Time trends** were determined using linear regression approximation [2]. Years of observation were grouped by two to increase the reliability of presented data. Many health indicators had low prevalence for non-white population groups and fluctuated from year to year. Only statistically significant changes in prevalence obtained by analyzing the slope of linear regression are discussed in the summary of results. We did not include Asian respondents in the trend analysis due to insufficient sample size to produce externally valid trend data.

**Healthy People 2010 Objectives:** *Healthy People 2010: National Health Promotion and Disease Prevention Objectives* is a national agenda that aims to significantly improve the health of Americans in the decade proceeding the year 2010. Developed through an extensive governmental, professional, and public national process, Healthy People 2010 defined two broad national goals: to increase quality and years of healthy life and to eliminate health disparities. These goals were supported by 476 specific objectives that set priorities for public health during the first decade of the 2000's. The objectives were organized into 28 priority areas and for each objective, a numeric

national target for the year 2010 was set. For each health status indicator in this report that has a corresponding Healthy People 2010 Objective, the year 2010 target is shown in the summary table at the end of the document.

# DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

## MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007

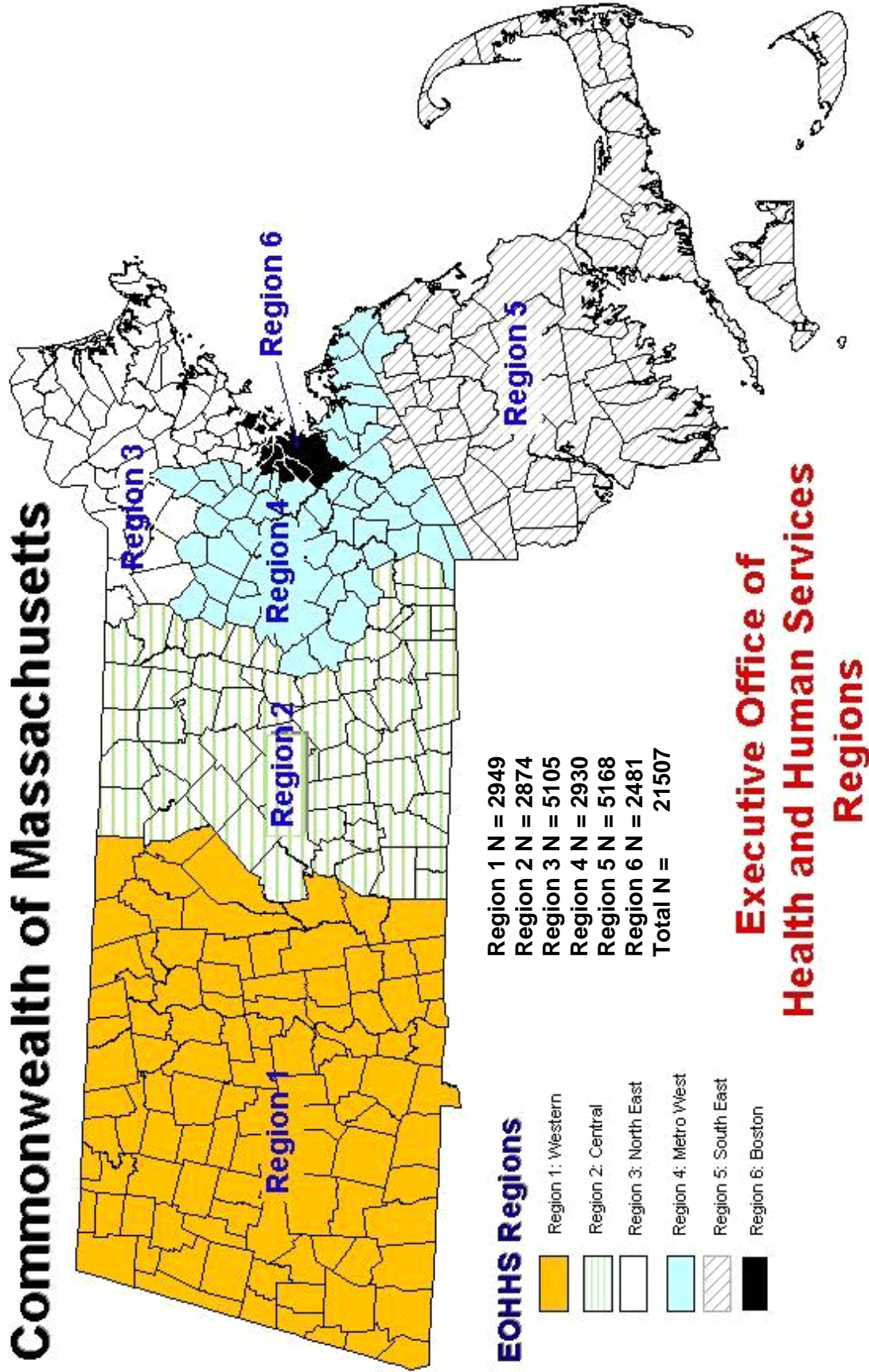
	UNWEIGHTED SAMPLE SIZE N	WEIGHTED PERCENT %†
OVERALL	21507	100.0
GENDER		
MALE	7611	47.7
FEMALE	13896	52.3
AGE GROUP		
18–24	755	7.8
25–34	2085	14.9
35–44	3581	26.6
45–54	4181	19.3
55–64	4170	13.7
65–74	3099	8.3
75 AND OLDER	3287	9.3
RACE-ETHNICITY*		
WHITE	17879	82.6
BLACK	1006	5.1
HISPANIC	1670	8.2
ASIAN	393	4.1
DISABILITY¶		
DISABILITY	1399	20.6
NO DISABILITY	3769	79.4
EDUCATION		
< HIGH SCHOOL	2072	6.9
HIGH SCHOOL	5860	24.3
COLLEGE 1–3 YRS	4873	22.2
COLLEGE 4+ YRS	8647	46.6
HOUSEHOLD INCOME		
<\$25,000	4876	18.0
\$25,000–34,999	1853	8.0
\$35,000–49,999	2425	11.9
\$50,000–74,999	2925	16.9
\$75,000+	6007	45.2
REGION		
I–WESTERN	2949	14.5
II–CENTRAL	2874	14.6
III–NORTH EAST	5105	18.4
IV–METRO WEST	2930	23.8
V–SOUTH EAST	5168	19.5
VI–BOSTON	2481	9.2

\* White, Black, and Asian race categories refer to non-Hispanic

† See BRFSS methodology in “Terms, Definitions and Methodology Used in this Report”

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

# Commonwealth of Massachusetts



## **SUMMARY OF RESULTS**

The 2007 Massachusetts BRFSS contained questions pertaining to social and demographic information including gender, race and ethnicity, income level, education level, disability status, and region of the state in which the respondent lived to examine potential disparities in health status and access to health care among these groups. The main statistically significant differences among these groups for the health issues assessed in this survey are presented.

### **GENDER**

#### **Health care access and description of overall health:**

- females (10%) were more likely than males (7%) to report 15 or more days of poor mental health in the past month and they reported having experienced sexual violence at significantly higher rates (14%) than males (5%)
- females, however, were less likely (4%) than males (7%) to report that they had no health insurance, were more likely (93%) than males (86%) to report having a personal health care provider, and were more likely (86%) than males (81%) to report they had had a regular checkup in the past year.

See tables 1.2, 2.1, 2.2

#### **Health risk factors:**

In general, females were less likely than males to report unhealthy behaviors such as smoking, drinking, and being overweight.

Females:

- were less likely (35%) than males (42%) to report that they were exposed to environmental tobacco smoke
- were almost half as likely (12%) as males (23%) to report engaging in binge drinking
- were less likely (5%) than males (7%) to report engaging in heavy drinking
- were less likely (49%) than males (69%) to report being overweight and were less likely (20%) than males (24%) to report being obese.

See tables 3.3, 3.4, 3.5

#### **Chronic health conditions:**

Females were more likely than males to have asthma and arthritis, but less likely to be affected by heart diseases.

Females:

- were more likely than males to have asthma and arthritis, but less likely to be affected by heart diseases
- were more likely (12%) than males (7%) to report that they currently have asthma or had ever been diagnosed with asthma (18% vs. 13% for males)
- were more likely (31%) than males (23%) to report that a doctor had ever diagnosed them with arthritis
- were less likely (3%) than males (7%) to report that they had ever experienced a heart attack and less likely (4%) than males (7%) to report that they had experienced angina.

See tables 4.2, 4.3, 4.4.1

#### **Prevention measures:**

- greater percentages of females than males reported that they had received key vaccinations: females age 50-64 (50%) were more likely than males of the same age group (42%) to report that they had a flu vaccine in the past year, and females age 65 and older (73%) were more likely than males of the same age group (68%) to report that they had ever had a pneumonia vaccine

- females were less likely (27%) than males (33%) to report engaging in vigorous physical activity
- females 50 and over (28%) were more likely than males of the same age group (21%) to report that they had had a blood stool test in the past two years, but were less likely (60%) than males of the same age group (69%) to report that they had undergone a sigmoidoscopy or colonoscopy in the past five years.

See tables 3.10.1, 3.10.2, 3.6, 5.1

## **AGE**

Discussed below are statistically significant differences in health and behavioral indicators observed in three broad age groups: young (18-34), middle-aged (35-64) and older (65+) respondents. Cancer screening and flu vaccination are recommended for people age 50 and over and mammography is recommended for women age 40 and over, and therefore the variables dealing with cancer prevention or flu/pneumonia vaccination activities address only prevalence among the adult population in those age groups. Questions about certain health indicators were not asked of respondents 65 years and older; in these cases, comparisons were made between the two lower age groups.

### **ADULTS AGE 18-34:**

#### **Health care access and description of overall health:**

Adults age 18-34 were:

- less likely (7%) to report that their health was fair or poor than adults 65 and older (25%) or adults age 35-64 (11%)
- less likely to experience 15 or more days of poor physical health in the past month (4%) than adults 65 and older (15%) or adults age 35-64 (9%)
- more likely to report being uninsured (9%) than were adults age 35-64 (4%)
- less likely to report having a personal health care provider (77%) than were adults age 35-64 (92%) or adults age 65 and older (97%).

See tables 1.1, 1.2, 2.1, 2.2

#### **Health risk factors:**

Adults age 18-34 were:

- less likely to report that they had high cholesterol levels (17%) than were adults age 65 and older (53%) or adults age 35-64 (35%)
- less likely (62%) to report that they had had their cholesterol checked in the past five years than adults age 35-64 (89%) or adults age 65 and older (96%)
- more likely on average to engage in binge drinking (30%) than adults age 35-64 (17%) or adults age 65 and older (4%)
- less likely to be overweight (49%) than were adults age 65 and over (60%) or adults age 35-64 (62%)
- more likely to report being a current smoker (22%) than adults 65 and older (7%) or adults age 35-64 (17%)

See tables 3.4, 3.8, 3.5, 3.1

#### **Chronic health conditions:**

Adults age 18-34 were

- less likely to report that they had ever been diagnosed with diabetes (2%) or arthritis (7%) than were adults age 65 and older (17% diabetes; 57% arthritis) or adults age 35-64 (7% diabetes; 26% arthritis)
- less likely to report a disability (14%) than adults age 65 and older (33%)

- less likely to report a disability for which they needed help with activities (3%) than adults age 65 and older (12%)
- more likely to report that they had ever been diagnosed with asthma (20%) than were adults age 65 and older (12%) or adults age 35-64 (15%).

See tables 4.1, 4.3, 1.3, 4.2

#### **Prevention measures:**

Adults age 18-34 were:

- more likely to report that they had ever been tested for HIV (51%) than adults age 35-64 (41%)
- more likely to engage in moderate or vigorous physical activity (56%) than were adults age 65 and over (42%).
- More likely to engage in vigorous physical activity (39%) than were adults age 35-64 (31%) or adults 65 and older (16%)

See tables 6.1, 3.6

### **ADULTS AGE 35-64**

#### **Health care access and description of overall health:**

Adults age 35-64 were:

- more likely to report having a checkup in the past year (82%) than adults age 18-34 (78%) and less likely than adults age 65 and older (94%)
- less likely to report not being able to see a doctor due to cost (7%) than adults age 18-34 (10%) and more likely than adults age 65 and older (3%)
- more likely to report fair or poor health (11%) than adults age 18-34 (7%) but less likely than adults age 65 and older (25%)
- less likely to report no insurance (4%) than adults age 18-34 (9%)
- more likely to report having a personal doctor (92%) than adults age 18-34 (77%) but less likely than adults age 65 and older (97%)
- more likely to report poor physical health (9%) than adults age 18-34 (4%) but less likely than adults age 65 and older (15%).

See tables 1.1, 1.2, 2.1, 2.2

#### **Health risk factors:**

Adults age 35-64 were:

- more likely to report being obese (24%) than adults age 18-34 (18%) and adults age 65 and older (20%)
- more likely to report being overweight or obese (62%) than adults age 18-34 (49%)
- less likely to report current smoking (17%) than adults age 18-34 (22%) and more likely than age 65 and older (7%).
- less likely to report exposure to environmental tobacco smoke (37%) than adults age 18-34 (54%) and more likely than adults age 65 and older (24%)

See tables 3.1, 3.3, 3.5

#### **Chronic health conditions:**

Adults age 35-64 were:

- more likely to report ever being diagnosed with arthritis (26%) than were adults 18-34 (7%), and less likely than adults 65 and older (57%)
- more likely to report being diagnosed with diabetes (7%) than adults age 18-34 (2%) and less likely than adults age 65 and older (17%)
- less likely to report prediabetes (5%) than adults age 65 and older (11%)

- less likely to report ever being diagnosed with asthma (15%) than adults age 18-34 (20%) and more likely than adults age 65 and older (12%).

See tables 4.3, 4.1, 4.2

#### **Prevention measures:**

Adults age 35-64 were:

- less likely to report engaging in vigorous physical activity (31%) than adults age 18-34 (39%) but more likely than adults age 65 and older (16%)
- less likely to report that they had ever been tested for HIV (41%) than adults age 18-34 (51%)

See tables 3.6, 6.1

### **ADULTS AGE 65 AND OVER**

#### **Health care access and description of overall health:**

Many adults age 65 and over are insured through Medicare, thus they were less likely in general to report health care access issues than were younger adults.

Adults age 65 and over were:

- less likely to report being unable to see a doctor due to cost (3%) than were adults age 18-34 (10%) or 35-64 (7%) and were more likely to report having a personal health care provider (97%) than were adults age 18-34 (77%) or adults age 35-64 (92%)
- more likely to report fair or poor health (25%) than adults age 18-34 (7%) or 35-64 (11%) and they were also more likely to report 15 or more days of poor physical health in the past month (15%) than were adults age 18-34 (4%) or adults age 35-64 (9%)

See tables 2.2, 1.1, 1.2

#### **Health risk factors:**

Adults age 65 and older were:

- more likely to report having high blood pressure (58%) than were adults age 18-34 (8%) or adults age 35-64 (24%)
- less likely to report being current smokers (7%) than adults age 18-34 (22%) or adults age 35-64 (17%)
- less likely report exposure to environmental tobacco smoke (24%) than younger adults (54% for age 18-34; 37% for age 35-64).

See tables 3.9, 3.1, 3.3

#### **Chronic health conditions:**

Adults age 65 and older were:

- approximately eight times as likely (17%) to report that they had been diagnosed with diabetes as were adults age 18-34 (2%) and approximately twice as likely as adults age 35-64 (7%)
- approximately eight times as likely (57%) to report that they had ever been diagnosed with arthritis as adults age 18-34 (7%) and more likely than adults age 35-64 (26%)
- more likely (11% for adults 65-74; 16% for adults 75 and over) than adults age 55-64 (6%) to report that they had ever experienced a heart attack
- more likely (5% for adults age 65-74; 9% for adults age 75 and older) than adults age 55-64 (2%) to report that they had experienced a stroke.

See tables 4.1, 4.3, 4.4.1, 4.4.2

#### **Prevention measures:**

- adults age 65 and over were less likely to report engaging in vigorous physical activity (16%) than were adults age 18-34 (39%) and adults 35-64 (31%)

- adults age 60-69 (71%) and 70-79 (70%) were more likely than were adults age 50-59 (61%) to have had a sigmoidoscopy or colonoscopy in the past five years
- men age 60-69 (72%) and age 70-79 (69%) were more likely to have had a PSA test in the past year than men age 50-59 (55%)
- women age 50-59 (90%), 60-69 (89%), and 70-79 (88%) were more likely to have had a mammogram in the past two years than were women age 40-49 (78%)
- adults age 65-74 were less likely to report ever having had a pneumonia vaccine (64%) than were adults age 75 and older (78%).

See tables 3.6, 5.1, 5.2, 5.3, 3.10.2

## **DISABILITY**

Presented below are statistically significant differences in health and behavioral indicators by disability status. Disability was defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Health care access and description of overall health:**

- adults with a disability were twice as likely (10%) to report being unable to see a doctor due to cost as adults without a disability (5%)
- women with a disability were over twice as likely to report that they had ever experienced sexual violence (23%) as women without a disability (11%)

See tables 2.2, 6.2

### **Health risk factors:**

Tobacco-related risk factors were particularly elevated in among adults with a disability. Adults with a disability:

- were almost twice as likely (22%) to report being current smokers as adults without a disability (13%)
- were more likely to report being former smokers (45%) than adults without a disability (32%)
- were less likely to live in a home that does not allow smoking (74%) than adults without a disability (84%)

Risk factors concerning weight were also more prevalent in adults with a disability. Adults with a disability:

- were more likely to be overweight (69%) or obese (32%) than adults without a disability (58% overweight, 19% obese)

Lastly, cardiovascular risk factors were elevated in adults with a disability. Adults with a disability:

- were more likely to have high cholesterol (49%) than were adults without a disability (35%) and were more likely to have high blood pressure (42%) than adults without a disability (24%).

See tables 3.1, 3.3, 3.5, 3.8, 3.9

### **Chronic health conditions:**

Adults with a disability:

- were approximately twice as likely (8%) to report being diagnosed with pre-diabetes as adults without a disability (4%)
- were almost three times as likely to report ever being told that they have diabetes (14%) as adults without a disability (5%)
- were more likely to report ever being diagnosed with asthma (23%) as adults without a disability (13%)

- were more than twice as likely (18%) as adults without a disability to report that they currently have asthma (7%)
- were more than twice as likely (52%) as adults without a disability (21%) to report that they had ever been diagnosed with arthritis, and were ten times as likely (30%) to report limitations due to arthritis as were adults without a disability (3%)
- were more than three times as likely to report that they had ever experienced a heart attack (11%) as people without a disability (3%) and were three times as likely (12%) as people without a disability to report that they had ever experienced angina (4%)
- were approximately eight times as likely (8%) as people without a disability (1%) to report that they had ever experienced a stroke.

See tables 4.1, 4.2, 4.3, 4.4.1, 4.4.2

### **Prevention measures:**

Adults with a disability:

- were less likely to report engaging in moderate or vigorous leisure time physical activity (41%) than adults without a disability (55%)
- were more likely to report ever receiving a pneumonia vaccine if they were age 65 years and older (78%) than adults without a disability in the same age group (69%).

See tables 3.6, 3.10.2

## **EDUCATION**

Below we present differences between groups based on educational attainment. For this summary of findings, we compare the lowest level of educational attainment (“less than high school”) to the highest level of educational attainment (“four years of college or more”) due to the fact that in general, the middle two groups achieved health outcomes similar to their counterparts with four or more years of college education.

### **LESS THAN HIGH SCHOOL**

#### **Health care access and description of overall health:**

Adults with less than a high school education:

- reported the highest percentage (40%) of fair or poor health of adults at any educational level
- were more than three times as likely (19%) to report poor physical health as those with four or more years of college education (5%)
- were more likely (16%) than adults at any other educational level to report 15 or more days of poor mental health in the past month
- were approximately four times as likely (17%) to report that they were not able to see a doctor at some point in the past year due to cost as adults with four or more years of college education (4%).

See tables 1.1, 1.2, 2.2

#### **Health risk factors:**

Adults with less than a high school education:

- were less likely (70%) to live in a home where smoking is not allowed than adults with four or more years of college education (89%)
- were more likely to report being a current smoker (31%) than adults with four or more years of college education (8%)
- were more likely to report being overweight (66%) and obese (33%) than adults with four or more years of college education (55% overweight, 17% obese)
- were less likely to report having had their cholesterol checked in the past five years (67%) than those with higher levels of educational attainment

- were more likely to report having high cholesterol (51%) than those with higher levels of educational attainment.

See tables 3.3, 3.1, 3.5, 3.8

### **Chronic health conditions:**

Adults with less than a high school education were:

- more likely (16%) to report having diabetes than adults with higher levels of educational attainment
- more likely to report currently having asthma (13%) than those with 4 or more years of college education (9%)
- approximately four times as likely (12%) as adults with four or more years of college education (3%) to report that they had experienced a heart attack
- almost four times as likely (11% vs. 3% for four or more years of college education) to report that they had experienced angina
- more likely (6%) than those with higher levels of educational attainment to report having had a stroke.

See tables 4.1, 4.2, 4.4.1, 4.4.2

### **Prevention measures:**

Adults with less than a high school education were:

- less likely (36%) to report engaging in moderate or vigorous leisure time physical activity than those with a higher level of educational attainment
- were less likely (42%) if they were male to report having had a prostate specific antigen (PSA) test in the past year than men with 4 or more years of college (68%)
- more likely (16%) to report having been tested for HIV in the past year than were adults with any other level of educational attainment
- were less likely if they were 65 and older to report having had a flu vaccine in the past year (73%) than adults in the same age group who reported having four or more years of college education (81%)
- were less likely if they were age 65 and older (60%) to report ever having had a pneumonia vaccine than adults age 65 and older with higher levels of educational attainment.

See tables 3.6, 5.2, 6.1, 3.10.1, 3.10.2

## **FOUR YEARS OF COLLEGE OR MORE**

### **Health care access and description of overall health:**

Adults with four or more years of college education:

- reported the lowest percentage (6%) of fair or poor health of any other education level
- were less likely (3%) to report feeling sad, blue, or depressed for 15 or more days in the past month than those with lower levels of educational attainment
- were less likely (15%) to report that they had a disability than adults at any other educational attainment level
- were less likely to report being uninsured (2%) than those with lower levels of educational attainment.

See tables 1.1, 1.2, 1.3, 2.1

### **Health risk factors:**

Adults with four or more years of college education:

- were less likely (8%) than adults with lower levels of educational attainment to report current smoking
- were most likely of all income groups (89%) to live in a household where smoking is not allowed

- were less likely (31%) than those at any other educational level to report exposure to environmental tobacco smoke
- were more likely (89%) to report having had their cholesterol checked in the past five years and were less likely (31%) to report having high cholesterol than those with any other level of educational attainment
- were less likely to report being overweight (55%) or obese (17%) than adults with lower levels of educational attainment.

See tables 3.1, 3.3, 3.8, 3.5

### **Chronic health conditions:**

Adults with 4 or more years of college education:

- were less likely to report that they had ever been diagnosed with diabetes (5%) than adults with lower levels of educational attainment
- were less likely to report currently having asthma (9%) than were adults with less than a high school education (13%)
- were less likely to report that they had ever been diagnosed with arthritis (23%) than were adults with less than a high school education (37%).

See tables 4.1, 4.2, 4.3

### **Prevention measures:**

Adults with 4 or more years of college education were:

- more likely (56%) to report engaging in moderate or vigorous leisure time physical activity than adults with lower levels of educational attainment
- more likely (68%) if age 50 and over and male than men age 50 and older with less than a high school education (42%) to report that they had had a PSA test in the past year
- more likely if age 50 and over (68%) to report having had a sigmoidoscopy or colonoscopy in the past five years than adults age 50 and older with less than a high school education (55%)

See tables 3.6, 5.2, 5.1

## **HOUSEHOLD INCOME**

Household income is a sensitive topic among survey respondents; approximately 20% of respondents to the 2007 survey refused to answer questions about their household income levels. Thus, caution should be exercised when interpreting results based on income level. Results for the lowest level of household income (“less than \$25,000”) and the highest level of household income (“\$75,000 or higher”) are presented below; more detailed figures are contained in the tables in the back of the report.

### **HOUSEHOLD INCOME LESS THAN \$25,000 PER YEAR:**

#### **Health care access and description of overall health:**

Adults with a household income less than \$25,000 a year:

- were more likely to report fair or poor health (33%) than adults in all other income brackets
- reported the highest percentage of poor physical health (21%) of any other income group
- were more likely (18%) to report poor mental health than any other income group
- were more likely (42%) to report having a disability than adults with higher household incomes, and were also more likely to report that they had a disability that required assistance with routine or personal care (20%)
- were more likely to report having had a checkup in the past year (88%) than adults with a household income of \$75,000 or higher (82%).

See tables 1.1, 1.2, 1.3, 2.2

**Health risk factors:**

Adults with a household income less than \$25,000 per year:

- were more likely (29%) to be obese than those with an annual household income of more than \$75,000 (19%)
- were the most likely (39%) of all income groups to report having high blood pressure.
- were more likely to report being current smokers (27%) than adults with a household income of \$75,000 or higher (10%)
- were less likely to report engaging in binge drinking (15%) than adults with a household income of \$75,000 or higher (21%).

See tables 3.5, 3.9, 3.1, 3.4

**Chronic health conditions:**

Adults with a household income less than \$25,000 per year:

- were the most likely of all income groups to report that they had ever been diagnosed with diabetes (15%) and arthritis (40%)
- were more likely to report having current asthma (13%) than adults with a household income of \$75,000 or more (8%)
- were approximately five times as likely to report that they had experienced a heart attack (11%) or angina (11%) as adults with an income of \$75,000 or above (2%)
- were more likely to report having a stroke (6%) than adults in higher income groups.

See tables 4.1, 4.2, 4.3, 4.4.1, 4.4.2

**Prevention measures:**

- adults aged 18-64 with a household income \$25,000 or less were more likely to report ever having been tested for HIV (53%) than adults with a household income of \$75,000 or more (44%)
- adults with a household income less than \$25,000 were less likely to report engaging in moderate or vigorous physical activity (41%) than were adults with a household income of \$35,000 or higher.

See tables 6.1, 3.6

**HOUSEHOLD INCOME \$75,000 OR HIGHER:****Health care access and description of overall health:**

Adults with a household income of \$75,000 or more per year were:

- least likely of all income groups to report fair or poor health (4%)
- least likely of all income groups to report poor mental health (5%)
- least likely of all income groups to report being uninsured (1%)
- least likely of all income groups to report not being able to see a doctor due to cost (2%).

See tables 1.1, 1.2, 2.1, 2.2

**Health risk factors:**

Adults with a household income of \$75,000 or more were:

- least likely of all income groups to report that they had ever been told that they have high blood pressure (19%)
- least likely to report that they currently smoke (10%)
- least likely to report that they are former smokers (30%)
- most likely to report living in a household where smoking is not allowed (89%)
- less likely (34%) than adults with a household income under \$25,000 (46%) to report being exposed to environmental tobacco smoke
- less likely (31%) than adults with a household income under \$25,000 (47%) to report having been diagnosed with high cholesterol

- more likely (30%) than adults with a household income under \$25,000 (25%) to report consuming five or more fruits or vegetables per day
- more likely (21%) to report binge drinking than adults with a household income under \$25,000 (15%).

See tables 3.9, 3.1, 3.3, 3.6, 3.8, 3.7, 3.4

#### **Chronic health conditions:**

Adults with a household income of \$75,000 or more per year were:

- less likely to report doctor-diagnosed arthritis (20%) and limitations due to arthritis (5%) than adults with a household income below \$75,000
- approximately half as likely to be diagnosed with pre-diabetes (4%) as adults with a household income under \$25,000 (9%)
- least likely of all income groups (and approximately one-fourth as likely as adults with a household income under \$25,000 (15%)) to be diagnosed with diabetes (4%)
- less likely (14%) than adults with a household income under \$25,000 (19%) to report ever being diagnosed with asthma
- less likely (8%) than adults with a household income under \$25,000 to report currently having asthma (13%).

See tables 4.3, 4.1, 4.2

#### **Prevention measures:**

- If age 50 or older, adults with a household income of \$75,000 or more were more likely to report having a colonoscopy or sigmoidoscopy in the last five years (69%) than adults age 50 or older with a household income below \$25,000 (58%)
- If age 50 or older, men in this income bracket were more likely to report that they have had a PSA test in the past year (70%) than men age 50 and older with a household income below \$25,000 (52%)
- adults with a household income of \$75,000 or more were more likely (57%) to report engaging in moderate or vigorous leisure time physical activity than adults with a household income under \$25,000 (41%) and were more likely (38%) than any other income group to report engaging in vigorous physical activity.

See tables 5.1, 5.2, 6.1, 3.6

## **REGION**

There were some regional differences in response to questions asked on the 2007 BRFSS. Below are statistically significant differences among EOHHS regions.

#### **Health care access and description of overall health:**

- Metro West residents (10%) were less likely to report fair or poor health than those living in the Western region (14%) the South East region (13%) the North East region (14%) and the Boston region (18%).
- adults living in the Metro West area (5%) were less likely to report being unable to see a doctor due to cost than adults in the Boston area (9%) or the Western (8%) or South East (8%) regions of the state.

See tables 1.1, 2.2

#### **Health risk factors:**

- those living in the Metro West region (11%) were less likely to report being a current smoker than those living in any other region of the state except Boston (15%)
- adults living in the Metro West area (33%) were less likely to report having high cholesterol than adults living in the South East (39%) or Western Massachusetts (37%)

- those living in the Boston area (24%) were less likely to report former smoking than those living in all other regions of the state.

See tables 3.1, 3.8

#### **Chronic health conditions:**

- adults living in the Boston area (13%) were less likely to report ever having had asthma than adults living in Western Massachusetts (18%)
- adults living in the Northeast (4%) and Metro West (4%) were less likely to report that they had experienced a heart attack than adults living in the Western part of the state (6%).

See tables 4.2, 4.4.1

#### **Prevention measures:**

- men living in the North East region (48%) were less likely than men living in the South East region (73%) to report having had a PSA test in the past year
- adults in living Boston (52%) were more likely than adults living in any other Massachusetts regions to report ever having been tested for HIV
- adults living in the Boston area (16%) were more likely to have been tested for HIV in the past year than were adults living in any other region in the state.

See tables 5.2, 6.1

## **RACE/ETHNICITY**

All figures and percentages concerning race/ethnicity disparities presented below refer to age adjusted proportions in order to reduce the confounding effect of different age composition of population subgroups. This does not include some preventive measure indicators where the age ranges were restricted. See p.7 for more details.

#### **Health care access and description of overall health:**

- in terms of overall health, Hispanic adults (34%) and Black adults (19%) were more likely to report fair or poor health than were White adults (10%)
- Hispanic adults (12%) were over three times as likely as White adults (4%) to report being uninsured, and Black adults (7%) were also more likely than White adults to report being uninsured
- Hispanic adults were more likely to report poor physical health (15%) than were White adults (8%)
- Hispanic (76%) adults were less likely than White (90%) and Black (84%) adults to report that they had a personal health care provider
- Hispanic (17%) adults were more likely than both Black adults (11%) and White (6%) adults to report that they could not see a doctor due to cost at some point in the past year. The difference between Black adults and White adults was also statistically significant.

See appendix for age-adjusted tables

#### **Health risk factors:**

- Black (70%) and Hispanic (67%) adults were more likely to report being overweight than White (57%) adults
- Black adults (41%) and Hispanic adults (40%) were less likely to report moderate or vigorous leisure time physical activity than White adults (54%)
- Hispanic adults (65%) were less likely than Black adults (81%) and White adults (84%) to have had their cholesterol checked in the past five years
- Black adults (27%) were less likely than White adults (33%) or Hispanic adults (35%) to report that they had been diagnosed with high cholesterol
- Black adults (34%) and Hispanic adults (30%) were more likely to be diagnosed with high blood pressure than White adults (25%).

See appendix for age-adjusted tables

**Chronic health conditions:**

- Black adults (13%) and Hispanic adults (14%) were more than twice as likely as White adults (6%) to report that they had ever been diagnosed with diabetes
- Hispanic adults (12%) were more likely to report limitations due to arthritis than White adults (9%)

See appendix for age-adjusted tables

**Prevention measures:**

- Of those age 65 and older, Hispanic adults (37%) were less likely to report ever having had a pneumonia vaccine than Black adults (61%) and White adults (73%) age 65 and older
- Hispanic adults (10%) were less likely than White adults (26%) to report having had a blood stool test in the past two years
- White adults (34%) were less likely than Black adults (51%) and Hispanic adults (46%) to report ever having had an HIV test and were also less likely (7%) than Black adults (19%) or Hispanic adults (12%) to report that they had been tested for HIV in the past year.

See appendix and tables 3.10.2, 5.1

**TRENDS BY RACE/ETHNICITY OVER TIME**

The patterns of racial/ethnic differences are assessed both by time trends and gaps in prevalence between whites and non-whites for various health indicators. The results of this assessment are available in chart form in the back of this report; the starting year for trend analysis may differ among health indicators depending on those indicators' availability in the corresponding year. Below are statistically significant differences among different racial and ethnic groups and any significant trends within racial and ethnic groups over time.

**Hispanic Respondents**

**Health care access and description of overall health:**

Hispanic respondents showed a significant upward trend from 1998 to 2007 in reporting that they had a disability. (Figures 1.3.1)

**Health risk factors:**

Promising trends concerning smoking were present in the population of Hispanic respondents: there was a significant upward trend among Hispanics from 1990 to 2007 in reporting that they had quit smoking for at least one day in the past year, and there was a significant upward trend among Hispanics from 1992 to 2007 in reporting that they lived in a home that did not allow smoking inside.

In terms of nutrition, however, there was a significant upward trend for Hispanic respondents in reporting being overweight and obese from 1990 to 2007, and there was a significant downward trend among Hispanic respondents between 1994 and 2007 in reporting that they consumed five or more fruits or vegetables per day. (Figures 3.2.1, 3.3, 3.5.1, 3.5.2, 3.7)

**Chronic health conditions:**

There was a significant upward trend among Hispanic respondents from 2000 to 2007 in reporting that they had ever been diagnosed with asthma, and there was a significant upward trend among Hispanic respondents from 1990 to 2007 in reporting that they had ever been diagnosed with diabetes. (Figures 4.2.1, 4.1)

**Prevention measures:**

A significant upward trend existed from 1992 to 2007 for Hispanic women in reporting that they had had a mammogram in the past two years, and there was also a significant upward trend from 1998

to 2007 among Hispanic respondents of both sexes in reports that they had undergone a sigmoidoscopy or colonoscopy in the past five years. Hispanic respondents age 50-64 and 65 and older showed significant upward trends from 1992 to 2007 in reporting that they had received a flu vaccine in the past year. (Figures 5.3, 5.1.2, 3.10.1, 3.10.2)

## **Black Respondents**

### **Health care access and description of overall health:**

Black respondents showed a statistically significant upward trend during the period from 1998 to 2007 in reporting that they had a disability. (Figure 1.3.1)

### **Health risk factors:**

There was a significant upward trend from 1992 to 2007 among Black respondents in reporting that they lived in a home in which smoking was not allowed inside. There was a significant upward trend among Black respondents from 1990 to 2007 in reporting obesity, but during the period from 1990 to 2007, Black respondents also showed a significant upward trend in reporting that they engaged in moderate or vigorous leisure time physical activity. There was a significant downward trend among Black respondents from 1994 to 2007 in reporting that they consumed five or more fruits or vegetables per day, but there was a significant upward trend among Black respondents from 1990 to 2007 in reporting that they had had their cholesterol checked in the past five years. (Figures 3.3, 3.5.2, 3.6, 3.7, 3.8)

### **Chronic health conditions:**

Black respondents showed a significant upward trend in diabetes diagnoses from 1990 to 2007. There was also a significant upward trend among Black respondents from 2000 to 2007 in reporting that they had ever been diagnosed with asthma. (Figures 4.1, 4.2.1)

### **Prevention measures:**

Black respondents showed a significant upward trend from 1998 to 2007 in reporting that they had undergone a colonoscopy or sigmoidoscopy in the past five years. Black respondents showed a significant upward trend from 1993 to 2007 in reporting that they had ever been tested for HIV. (Figures 5.1.2, 6.1.1)

## **White Respondents**

### **Health care access and description of overall health:**

White respondents showed a significant downward trend in reporting that they were unable to see a doctor due to cost from 1990 to 2007. White respondents showed a statistically significant upward trend from 1998 to 2007 in reporting that they had a disability. There is a significant downward trend from 1990 to 2007 among White respondents in reporting that they were uninsured. White respondents showed a significant downward trend from 1990 to 2007 in reporting current smoking. (Figures 2.2.2, 1.3.1, 2.1.1, 3.1.1)

### **Health risk factors:**

There was a significant upward trend among White respondents from 1992 to 2007 in reporting that they lived a home that did not allow smoking inside. There was a significant upward trend from 1990 to 2007 among White respondents in reporting obesity, but White respondents also showed a significant upward trend from 1990 to 2007 in reporting engaging in moderate or vigorous leisure time physical activity. There was a significant upward trend among White respondents from 1990 to 2007 in reporting that they had had their cholesterol tested in the past five years, and there was a significant upward trend among White respondents in reporting hypertension from 1990 to 2007. (Figures 3.3, 3.5.2, 3.6, 3.8, 3.9)

**Chronic health conditions:**

White respondents showed a significant upward trend from 1990 to 2007 in reporting that they had ever been diagnosed with diabetes. From 2000 to 2007, White respondents showed an upward trend in reporting that they had ever been diagnosed with asthma. (Figures 4.1, 4.2.1)

**Prevention measures:**

White respondents showed a significant upward trend from 1998 to 2007 in reporting that they had undergone a colonoscopy or sigmoidoscopy in the past five years, and also a significant upward trend from 1992 to 2007 among White women in reporting that they had had a mammogram in the past two years. A significant upward trend existed for White respondents from 1993 to 2007 in reporting that they had ever been tested for HIV. White respondents age 50-64 and age 65 and older showed a significant upward trend from 1992 to 2007 in reporting that they had received a flu vaccine in the past year, and White respondents age 65 and older showed a significant upward trend from 1992 to 2007 in reporting that they had ever received a pneumonia vaccine. (Figures 5.1.2, 5.3, 6.1, 3.10.1, 3.10.2, 3.10.3)

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## SECTION 1: OVERALL HEALTH MEASURES

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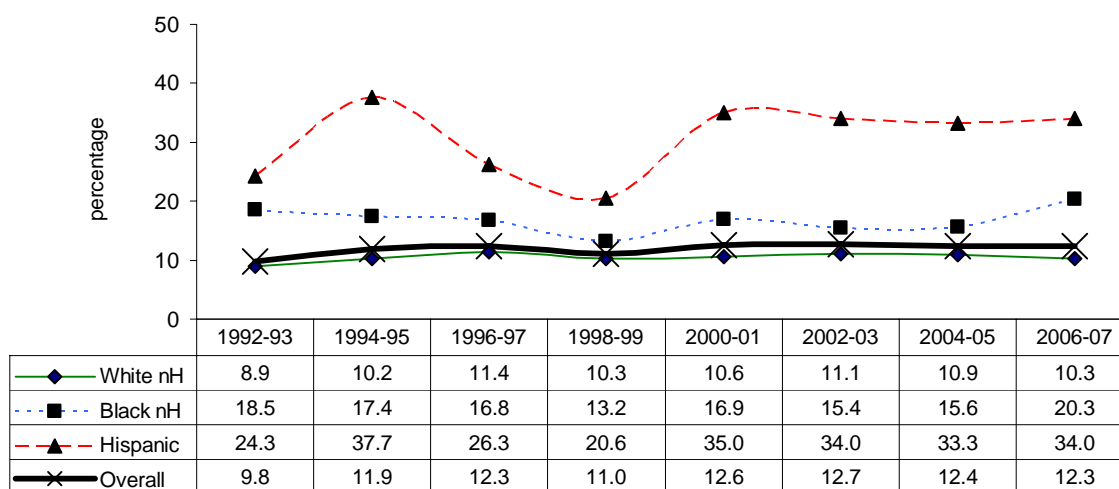
## SECTION 1: OVERALL HEALTH MEASURES

### Section 1.1: Overall Health Status

General health status is a self-rated assessment of one's perceived health, which may be influenced by all aspects of life, including behaviors, the physical environment, and social factors. Self-assessed health status is a predictor of mortality and morbidity. General health status is useful in determining unmet health needs, identifying disparities among subpopulations, and characterizing the burden of chronic diseases within a population [3].

Respondents were asked to describe their overall health as excellent, very good, good, fair, or poor. Presented here are the percentages of adults who reported that their overall health was fair or poor.

**Figure 1.1: Percentage of adults who reported poor or fair health, by race/ethnicity, MA 1992-2007**



Data source: 2007 MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↓
Hispanic	→	↓
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 1.1 – OVERALL HEALTH STATUS AMONG MASSACHUSETTS ADULTS, 2007**

	FAIR OR POOR HEALTH		
	N	%	95% CI
OVERALL	21235	12.7	12.0 - 13.3
GENDER			
MALE	7515	12.2	11.2 - 13.3
FEMALE	13720	13.0	12.3 - 13.8
AGE GROUP			
18–24	746	6.5	3.8 - 9.1
25–34	2063	7.8	6.0 - 9.6
35–44	3532	8.0	6.9 - 9.1
45–54	4144	11.2	9.9 - 12.5
55–64	4121	17.4	15.6 - 19.2
65–74	3062	19.9	17.9 - 21.8
75 AND OLDER	3222	28.6	26.4 - 30.8
RACE-ETHNICITY*			
WHITE	17651	10.9	10.3 - 11.5
BLACK	991	16.0	13.0 - 19.0
HISPANIC	1654	29.6	25.9 - 33.4
ASIAN	†		
DISABILITY¶			
DISABILITY	1383	33.3	29.7 - 36.9
NO DISABILITY	3720	5.6	4.6 - 6.6
EDUCATION			
< HIGH SCHOOL	2035	40.3	36.3 - 44.4
HIGH SCHOOL	5785	18.3	16.8 - 19.8
COLLEGE 1–3 YRS	4810	12.1	10.8 - 13.3
COLLEGE 4+ YRS	8551	5.9	5.3 - 6.5
HOUSEHOLD INCOME			
<\$25,000	4803	33.3	31.0 - 35.7
\$25,000–34,999	1829	17.4	14.8 - 20.0
\$35,000–49,999	2395	12.4	10.5 - 14.2
\$50,000–74,999	2899	8.0	6.5 - 9.5
\$75,000+	5937	4.0	3.3 - 4.6
REGION			
I–WESTERN	2906	13.6	12.0 - 15.2
II–CENTRAL	2830	11.0	9.5 - 12.4
III–NORTH EAST	5048	14.1	12.5 - 15.6
IV–METRO WEST	2900	9.8	8.5 - 11.1
V–SOUTH EAST	5090	12.8	11.5 - 14.1
VI–BOSTON	2461	17.9	15.3 - 20.5

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

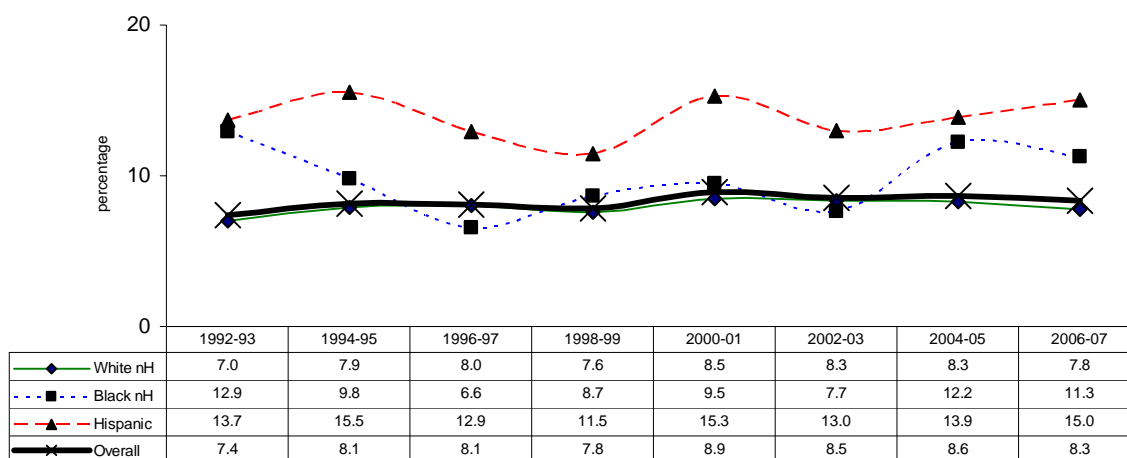
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## Section 1.2: Quality of Life

A person's perceived physical and mental health is used to measure the effects of numerous disorders, short- and long-term disabilities, and diseases. Healthy People 2010 identified quality of life as a central public health goal. Perceived quality of life can help guide public health policies and interventions to improve health and fulfill unmet health needs [4].

All respondents were asked to report: (1) the number of days during the past month that their physical health, which includes physical illness and injury, had not been good; (2) the number of days during the past month they would describe their mental health as not good, and; (3) the number of days that they had felt sad, blue, or depressed during the past month. Presented here are the percentages of respondents who reported that (1) they had experienced at least 15 days of poor physical health in the previous month; (2) their mental health was not good for at least 15 days during the past month; and (3) they felt sad, blue, or depressed for at least 15 days in the past month. This report does not include the trend chart for feeling "sad, blue, or depressed" due to low prevalence by race/ethnicity and year.

**Figure 1.2.1: Percentage of adults who reported poor physical health for at least 15 days of the past month, by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

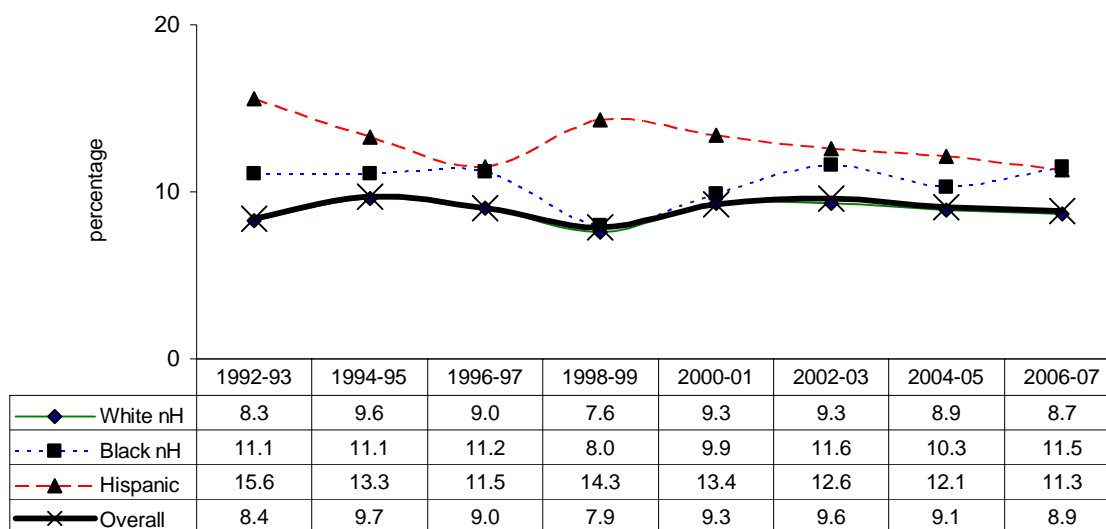
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1993-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	➔	--
Black, non-Hispanic	➔	↔
Hispanic	➔	↓
Overall	➔	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*"up" arrow indicates "better," "down" arrow indicates "worse," and sideways arrows indicate "no statistically significant difference" based on age-adjusted figures from 2007.

**Figure 1.2.2: Percentage of adults who reported poor mental health for at least 15 days of the past month, by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	➔	--
Black, non-Hispanic	➔	↔
Hispanic	➔	↔
Overall	➔	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 1.2 – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2007**

	15+ DAYS OF POOR PHYSICAL HEALTH		
	N	%	95% CI
OVERALL	21194	8.9	8.4 - 9.5
GENDER			
MALE	7513	8.5	7.6 - 9.4
FEMALE	13681	9.3	8.6 - 10.0
AGE GROUP			
18–24	748	†	
25–34	2068	5.5	3.8 - 7.3
35–44	3551	6.9	5.8 - 8.0
45–54	4148	8.9	7.8 - 10.0
55–64	4118	12.8	11.1 - 14.5
65–74	3044	13.4	11.7 - 15.1
75 AND OLDER	3181	16.5	14.8 - 18.2
RACE-ETHNICITY*			
WHITE	17642	8.7	8.1 - 9.3
BLACK	981	8.6	6.2 - 11.0
HISPANIC	1636	13.1	10.3 - 15.9
ASIAN	†		
DISABILITY <sup>¶</sup>			
DISABILITY	1361	28.0	24.2 - 31.8
NO DISABILITY	3740	3.5	2.7 - 4.2
EDUCATION			
< HIGH SCHOOL	2005	19.4	16.1 - 22.7
HIGH SCHOOL	5750	12.5	11.2 - 13.8
COLLEGE 1–3 YRS	4808	10.2	9.0 - 11.5
COLLEGE 4+ YRS	8583	4.9	4.4 - 5.5
HOUSEHOLD INCOME			
<\$25,000	4767	21.4	19.3 - 23.5
\$25,000–34,999	1828	12.0	9.8 - 14.1
\$35,000–49,999	2402	10.0	8.2 - 11.8
\$50,000–74,999	2900	6.3	5.0 - 7.6
\$75,000+	5984	3.7	3.1 - 4.4
REGION			
I–WESTERN	2911	10.8	9.3 - 12.3
II–CENTRAL	2841	9.3	7.8 - 10.8
III–NORTH EAST	5031	9.2	7.9 - 10.5
IV–METRO WEST	2882	6.9	5.8 - 8.0
V–SOUTH EAST	5078	9.3	8.1 - 10.6
VI–BOSTON	2451	9.4	7.5 - 11.3

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

**TABLE 1.2 (CONTINUED) – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2007**

	15+ DAYS OF POOR MENTAL HEALTH			15+ DAYS OF SAD, BLUE OR DEPRESSED		
	N	%	95% CI	N	%	95% CI
OVERALL	21198	8.7	8.1 - 9.3	5385	6.0	5.1 - 6.9
GENDER						
MALE	7517	7.4	6.5 - 8.3	1968	5.5	4.1 - 7.0
FEMALE	13681	9.9	9.1 - 10.6	3417	6.4	5.2 - 7.6
AGE GROUP						
18–24	746	10.4	7.2 - 13.5	†		
25–34	2060	10.7	8.7 - 12.6	517	6.2	3.6 - 8.7
35–44	3546	8.5	7.3 - 9.7	905	6.3	4.2 - 8.5
45–54	4144	8.8	7.7 - 9.9	1072	6.9	5.0 - 8.9
55–64	4111	9.9	8.3 - 11.5	1028	4.6	2.8 - 6.3
65–74	3046	6.3	5.0 - 7.5	774	4.0	2.3 - 5.7
75 AND OLDER	3211	5.2	4.2 - 6.2	826	5.0	3.0 - 7.0
RACE-ETHNICITY*						
WHITE	17628	8.3	7.7 - 9.0	4529	5.6	4.6 - 6.5
BLACK	998	10.3	7.5 - 13.2	†		
HISPANIC	1645	11.8	9.0 - 14.5	402	15.0	8.5 - 21.4
ASIAN	387	4.4	2.1 - 6.8	†		
DISABILITY <sup>¶</sup>						
DISABILITY	1366	20.4	16.9 - 23.9	1367	17.0	14.0 - 20.1
NO DISABILITY	3747	4.5	3.5 - 5.5	3728	3.2	2.3 - 4.1
EDUCATION						
< HIGH SCHOOL	2014	16.4	13.3 - 19.5	521	15.2	9.3 - 21.1
HIGH SCHOOL	5761	11.5	10.2 - 12.9	1450	8.1	5.9 - 10.3
COLLEGE 1–3 YRS	4800	10.4	9.1 - 11.7	1222	6.9	4.7 - 9.0
COLLEGE 4+ YRS	8571	5.3	4.6 - 6.0	2186	3.3	2.3 - 4.2
HOUSEHOLD INCOME						
<\$25,000	4788	18.2	16.3 - 20.2	1201	18.1	14.0 - 22.1
\$25,000–34,999	1825	10.9	8.4 - 13.4	472	9.2	4.2 - 14.3
\$35,000–49,999	2404	10.2	8.3 - 12.1	618	7.0	3.9 - 10.1
\$50,000–74,999	2900	6.9	5.6 - 8.3	704	3.7	2.0 - 5.5
\$75,000+	5971	4.8	4.0 - 5.5	1573	2.0	1.1 - 2.8
REGION						
I–WESTERN	2912	10.6	9.0 - 12.2	757	8.4	5.7 - 11.1
II–CENTRAL	2835	9.4	7.7 - 11.1	721	4.6	1.9 - 7.2
III–NORTH EAST	5027	8.1	6.8 - 9.5	1277	5.9	3.8 - 8.1
IV–METRO WEST	2892	6.2	5.1 - 7.3	732	3.5	1.9 - 5.1
V–SOUTH EAST	5080	10.0	8.5 - 11.4	1281	7.5	5.3 - 9.7
VI–BOSTON	2452	9.6	7.9 - 11.4	617	7.3	4.1 - 10.5

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

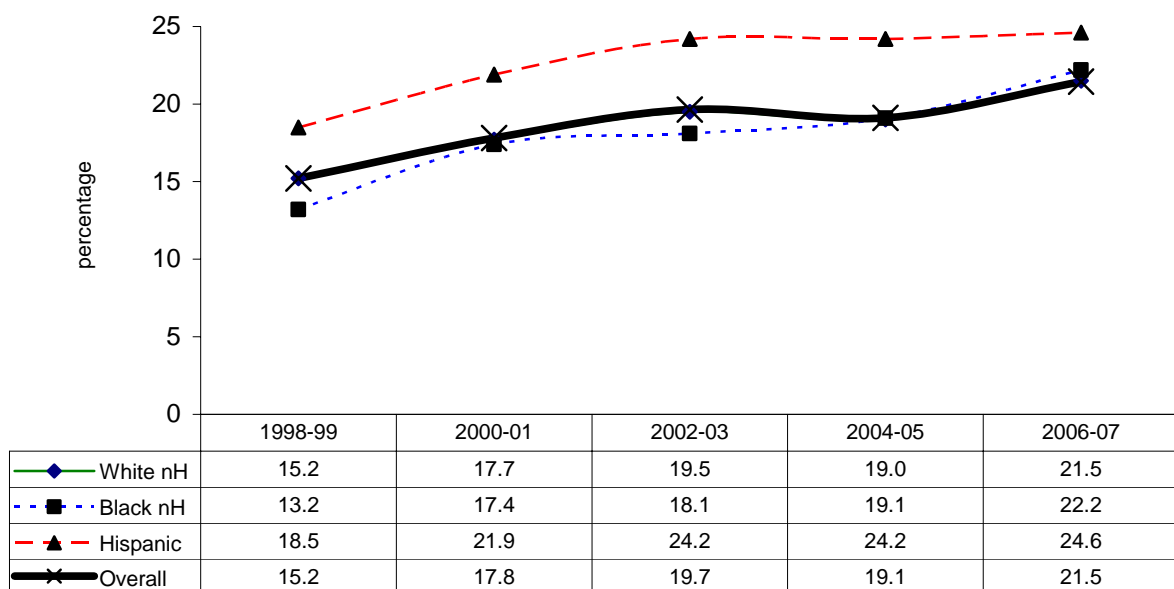
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## Section 1.3: Disability

*Healthy People 2010* defines disability as “the interaction between an individual’s health condition and barriers in their environment.” These barriers may include limited access to programs, services, and activities aimed at promoting healthy living. Approximately 50 million people (19%) in the United States, ages five and over, have a disability. Thus a major goal of *Healthy People 2010* is to “promote the health of people with disabilities, prevent secondary conditions, and eliminate disparities between people with and without disabilities” [5, 6].

In 2007, respondents to the Massachusetts BRFSS were asked about disabilities and activity limitations. Respondents were classified as having a disability or activity limitation if, for at least one year: (1) they had an impairment or health problem that limited activities or caused cognitive difficulties; (2) they used special equipment or required help from others to get around, or; (3) they reported a disability of any kind. Those who answered yes to one or more of the conditions above but had been limited by their disability for less than one year were not considered to have a disability. Respondents who reported having a disability were also asked if their disability or limitation required them to need help with routine needs or personal care. This report does not include the trend chart for “having a disability and needing help” due to low prevalence by race/ethnicity and year.

**Figure 1.3.1 Percentage of adults with a disability, by race/ethnicity, MA  
1998-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1998-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↔
Hispanic	↗	↔
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 1.3 – DISABILITY AMONG MASSACHUSETTS ADULTS, 2007**

	HAVE DISABILITY			DISABILITY / NEED HELP WITH ACTIVITY		
	N	%	95% CI	N	%	95% CI
OVERALL	5168	20.6	19.0 - 22.1	5154	5.9	5.1 - 6.7
GENDER						
MALE	1879	20.2	17.8 - 22.7	1872	5.0	3.8 - 6.2
FEMALE	3289	20.9	18.9 - 22.8	3282	6.8	5.8 - 7.8
AGE GROUP						
18–24	186	15.9	8.8 - 23.0	†		
25–34	502	13.1	9.0 - 17.3	500	3.3	1.6 - 5.1
35–44	864	15.3	12.1 - 18.5	864	3.9	2.3 - 5.5
45–54	1034	20.0	16.7 - 23.3	1034	6.4	4.6 - 8.2
55–64	990	25.0	21.4 - 28.7	983	6.3	4.4 - 8.2
65–74	750	28.0	23.7 - 32.3	748	9.1	6.3 - 11.9
75 AND OLDER	783	38.4	33.9 - 42.9	781	15.0	11.9 - 18.2
RACE-ETHNICITY*						
WHITE	4355	21.2	19.5 - 22.9	4343	5.9	5.0 - 6.8
BLACK	218	17.2	10.6 - 23.7	†		
HISPANIC	382	20.3	13.7 - 27.0	381	6.1	3.4 - 8.8
ASIAN	†			†		
DISABILITY¶						
DISABILITY	1399	100.0	100 - 100	1385	29.0	25.5 - 32.5
NO DISABILITY	†			†		
EDUCATION						
< HIGH SCHOOL	495	36.4	29.3 - 43.5	493	16.4	11.6 - 21.1
HIGH SCHOOL	1386	26.4	22.9 - 29.9	1384	8.2	6.5 - 10.0
COLLEGE 1–3 YRS	1167	20.9	17.6 - 24.3	1162	7.2	5.2 - 9.2
COLLEGE 4+ YRS	2113	15.4	13.4 - 17.5	2108	2.8	2.0 - 3.6
HOUSEHOLD INCOME						
<\$25,000	1168	41.9	37.1 - 46.6	1164	20.1	16.4 - 23.8
\$25,000–34,999	445	27.9	22.0 - 33.7	443	7.5	4.4 - 10.5
\$35,000–49,999	597	24.0	18.9 - 29.1	595	4.3	2.6 - 6.0
\$50,000–74,999	673	15.2	11.5 - 18.9	673	2.8	1.4 - 4.2
\$75,000+	1516	11.9	9.8 - 14.1	1514	1.5	0.8 - 2.3
REGION						
I–WESTERN	724	25.1	20.9 - 29.3	721	9.3	6.6 - 12.0
II–CENTRAL	688	16.9	13.5 - 20.4	687	4.1	2.7 - 5.5
III–NORTH EAST	1224	19.4	15.9 - 22.9	1220	4.4	3.0 - 5.9
IV–METRO WEST	705	20.0	16.3 - 23.7	703	4.9	3.1 - 6.6
V–SOUTH EAST	1231	20.5	17.2 - 23.9	1227	6.7	4.7 - 8.6
VI–BOSTON	596	22.6	18.3 - 26.9	596	7.3	5.0 - 9.7

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

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## **SECTION 2: HEALTH CARE ACCESS AND UTILIZATION**

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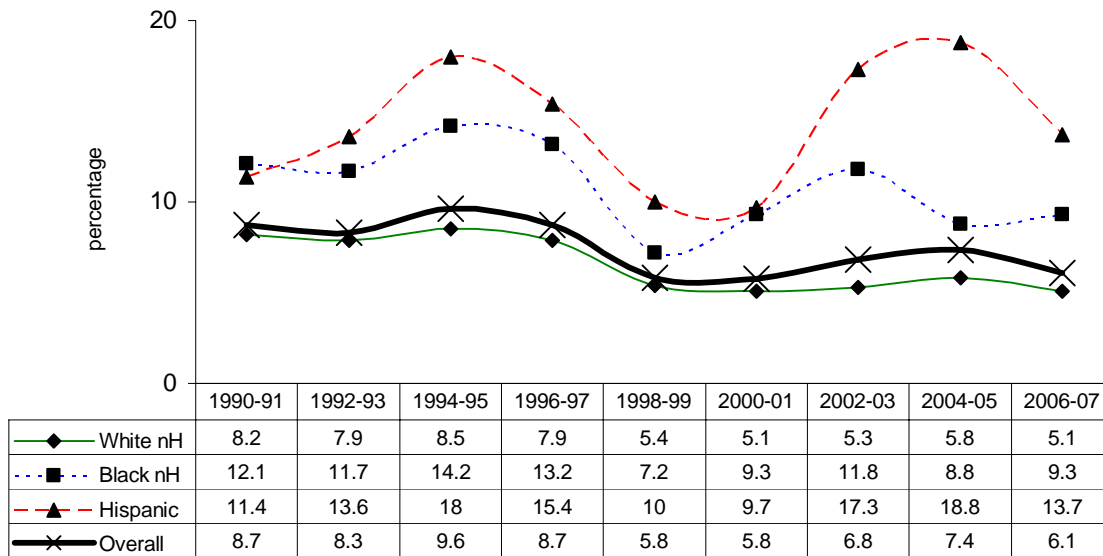
## **SECTION 2: HEALTH CARE ACCESS AND UTILIZATION**

### **Section 2.1: Health Insurance Status**

Health insurance status is a key factor affecting access to health care. Adults who do not have health insurance are more likely to have poor health and are at greater risk for chronic diseases than those with health insurance. Those without health insurance are less likely to access health care services, including preventative care, primary care, and tertiary care, and more likely to delay getting needed medical attention [7,8].

All respondents were asked if they had any type of health care coverage at the time of the interview. Those who indicated that they had no coverage were asked a follow-up question to be certain that they had considered all types of health care coverage. This included health care coverage from their employer or someone else's employer, a plan that they had bought on their own, Medicare, MassHealth, and coverage through the military, or the Indian Health Service. CDC estimates of uninsured adults, based solely upon the CDC core health insurance question, may differ from estimates derived from the Massachusetts BRFSS estimates, which were based on the CDC core health insurance question and the Massachusetts follow-up question. Table 2.1 presents the Massachusetts BRFSS data.

**Figure 2.1.1: Percentage of adults who were not insured, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↘	--
Black, non-Hispanic	→	↓
Hispanic	→	↓
Overall	↘	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 2.1 – HEALTH INSURANCE STATUS AMONG MASSACHUSETTS ADULTS,  
AGES 18-64, 2007**

	NO HEALTH INSURANCE		
	N	%	95% CI
OVERALL	14740	5.3	4.7 - 5.9
GENDER			
MALE	5347	7.1	6.0 - 8.2
FEMALE	9393	3.5	3.0 - 4.1
AGE GROUP			
18–24	746	11.5	8.4 - 14.6
25–34	2080	8.0	6.0 - 10.0
35–44	3573	4.1	3.2 - 5.0
45–54	4175	3.4	2.7 - 4.1
55–64	4166	3.8	2.6 - 5.1
RACE-ETHNICITY*			
WHITE	11788	4.2	3.6 - 4.8
BLACK	785	8.3	5.5 - 11.1
HISPANIC	1421	15.0	11.7 - 18.4
ASIAN	†		
DISABILITY¶			
DISABILITY	832	5.2	3.0 - 7.5
NO DISABILITY	2738	5.3	3.9 - 6.8
EDUCATION			
< HIGH SCHOOL	1132	18.9	13.8 - 23.9
HIGH SCHOOL	3461	8.0	6.5 - 9.5
COLLEGE 1–3 YRS	3397	6.1	4.7 - 7.4
COLLEGE 4+ YRS	6728	2.1	1.6 - 2.6
HOUSEHOLD INCOME			
<\$25,000	2627	16.0	13.0 - 18.9
\$25,000–34,999	1068	12.2	8.9 - 15.4
\$35,000–49,999	1634	7.6	5.5 - 9.7
\$50,000–74,999	2350	2.4	1.5 - 3.2
\$75,000+	5333	0.9	0.6 - 1.3
REGION			
I–WESTERN	1982	7.9	5.8 - 10.0
II–CENTRAL	2004	5.6	4.0 - 7.2
III–NORTH EAST	3559	5.3	4.0 - 6.7
IV–METRO WEST	1944	2.4	1.6 - 3.2
V–SOUTH EAST	3450	5.4	4.2 - 6.7
VI–BOSTON	1801	7.9	5.4 - 10.4

\* White, Black, and Asian race categories refer to non-Hispanic

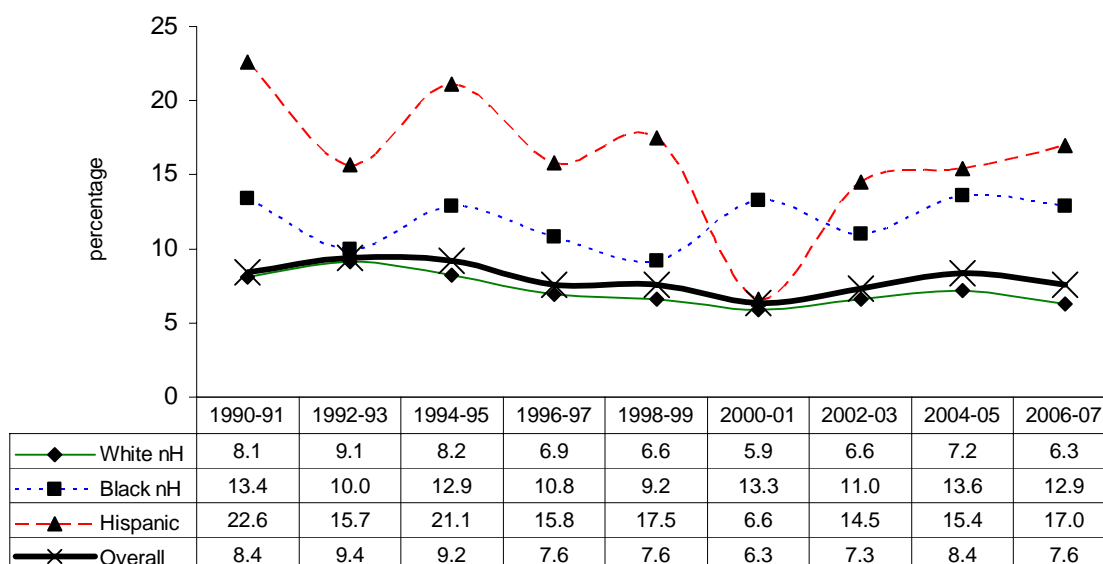
† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## Section 2.2: Health Care Access

All respondents were asked if they had a person that they thought of as their personal doctor or health care provider. All respondents were also asked whether they were unable to see a doctor in the past year due to cost and whether they had visited a medical provider for a checkup in the past year. Presented here are the percentages of respondents who reported that they did have a personal health care provider, the percentages of respondents who reported that cost had prevented them from seeing a doctor at some point in the past year, and the percentages of respondents who had visited a medical provider for a checkup in the past year. This report does not include the trend chart for having a “personal health care provider” due to an insufficient number of years of data for use in analyzing the trend.

**Figure 2.2.2: Percentage of adults who were unable to see a doctor due to cost, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

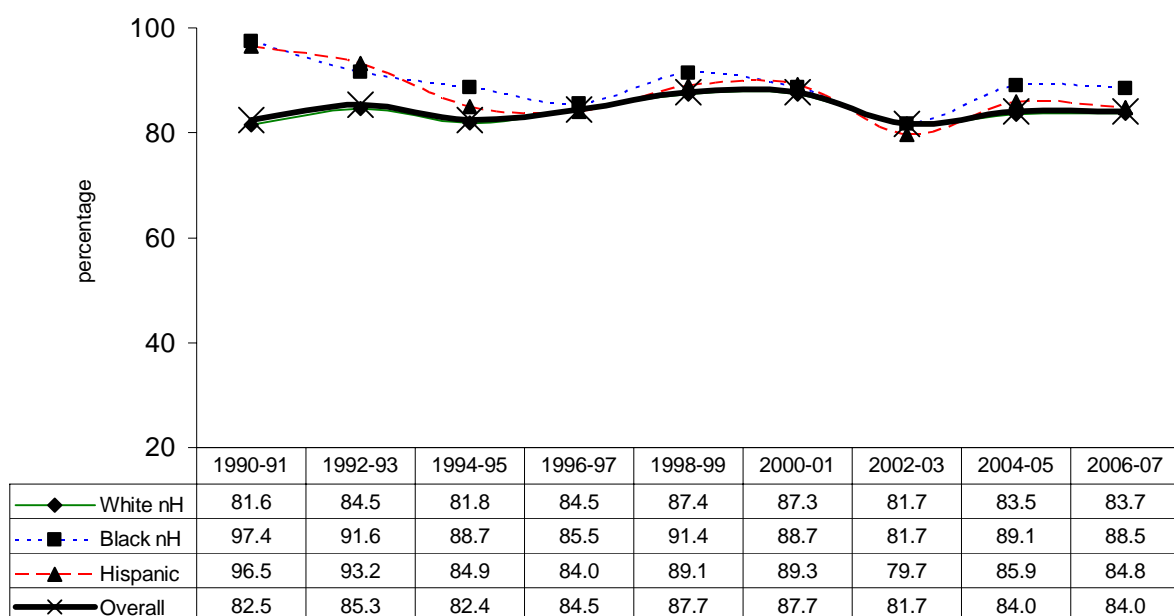
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↘	--
Black, non-Hispanic	→	↓
Hispanic	→	↓
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**Figure 2.2.3: Percentage of adults who had a regular check up in the past year, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↑
Hispanic	→	↔
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 2.2 HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2007**

	HAVE PERSONAL HEALTH CARE PROVIDER			COULD NOT SEE DOCTOR DUE TO COST		
	N	%	95% CI	N	%	95% CI
OVERALL	21453	89.4	88.7 - 90.2	21468	6.9	6.4 - 7.5
GENDER						
MALE	7599	86.0	84.7 - 87.4	7596	6.8	5.8 - 7.7
FEMALE	13854	92.6	91.9 - 93.3	13872	7.1	6.4 - 7.7
AGE GROUP						
18-24	748	72.9	68.2 - 77.6	752	9.8	7.1 - 12.5
25-34	2080	79.6	76.9 - 82.4	2083	10.0	7.9 - 12.2
35-44	3571	89.9	88.5 - 91.3	3573	6.8	5.7 - 7.9
45-54	4173	93.2	92.0 - 94.3	4172	7.7	6.6 - 8.8
55-64	4161	93.6	92.2 - 95.0	4163	6.3	4.9 - 7.7
65-74	3097	96.8	95.9 - 97.6	3096	3.2	2.5 - 4.0
75 AND OLDER	3275	97.2	96.4 - 98.0	3281	2.3	1.4 - 3.3
RACE-ETHNICITY*						
WHITE	17845	92.0	91.3 - 92.7	17857	5.5	5.0 - 6.1
BLACK	1001	83.5	79.4 - 87.7	1004	10.7	7.9 - 13.5
HISPANIC	1656	73.8	69.7 - 77.9	1660	17.3	14.1 - 20.6
ASIAN	393	82.2	76.5 - 87.9	390	4.7	2.3 - 7.2
DISABILITY†						
DISABILITY	1394	91.9	89.5 - 94.2	1396	10.1	7.4 - 12.8
NO DISABILITY	3765	89.6	88.0 - 91.3	3766	4.6	3.7 - 5.5
EDUCATION						
< HIGH SCHOOL	2060	77.1	72.9 - 81.2	2064	16.8	13.1 - 20.5
HIGH SCHOOL	5834	87.6	86.0 - 89.3	5846	8.4	7.2 - 9.6
COLLEGE 1-3 YRS	4868	89.1	87.5 - 90.7	4868	8.2	6.9 - 9.4
COLLEGE 4+ YRS	8636	92.4	91.5 - 93.3	8635	4.1	3.5 - 4.7
HOUSEHOLD INCOME						
<\$25,000	4860	81.2	78.8 - 83.6	4861	16.5	14.3 - 18.7
\$25,000-34,999	1847	82.7	79.2 - 86.3	1851	13.8	10.8 - 16.8
\$35,000-49,999	2420	89.0	86.7 - 91.2	2420	9.4	7.6 - 11.1
\$50,000-74,999	2925	91.4	89.5 - 93.2	2923	6.1	4.7 - 7.4
\$75,000+	6003	94.0	93.2 - 94.9	6004	2.0	1.5 - 2.5
REGION						
I-WESTERN	2938	86.5	84.3 - 88.8	2944	7.6	6.1 - 9.0
II-CENTRAL	2865	91.2	89.3 - 93.1	2864	7.1	5.7 - 8.6
III-NORTH EAST	5092	90.5	88.8 - 92.1	5094	6.5	5.3 - 7.7
IV-METRO WEST	2928	91.2	89.6 - 92.7	2929	4.9	3.8 - 6.0
V-SOUTH EAST	5156	90.0	88.4 - 91.6	5159	8.2	6.9 - 9.5
VI-BOSTON	2474	83.6	80.9 - 86.2	2478	9.0	6.8 - 11.2

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

**TABLE 2.2 (CONTINUED) HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2007**

	HAVE HAD A CHECKUP IN THE PAST YEAR		
	N	%	95% CI
OVERALL	19621	83.9	83.0 - 84.7
GENDER			
MALE	6702	81.0	79.5 - 82.6
FEMALE	12919	86.2	85.3 - 87.2
AGE GROUP			
18–24	657	81.2	76.7 - 85.8
25–34	1748	76.7	73.6 - 79.8
35–44	3127	79.1	77.1 - 81.1
45–54	3799	83.2	81.4 - 84.9
55–64	3886	87.3	85.8 - 88.9
65–74	2950	93.4	92.3 - 94.6
75 AND OLDER	3140	94.8	93.7 - 95.9
RACE-ETHNICITY*			
WHITE	16322	83.7	82.8 - 84.6
BLACK	927	87.7	83.1 - 92.2
HISPANIC	1534	84.5	80.6 - 88.5
ASIAN	352	80.4	74.6 - 86.2
DISABILITY†			
DISABILITY	1289	86.0	82.7 - 89.2
NO DISABILITY	3405	82.8	80.8 - 84.8
EDUCATION			
< HIGH SCHOOL	1894	87.0	83.6 - 90.5
HIGH SCHOOL	5366	87.4	85.9 - 89.0
COLLEGE 1–3 YRS	4444	83.0	81.0 - 85.0
COLLEGE 4+ YRS	7871	82.0	80.7 - 83.3
HOUSEHOLD INCOME			
<\$25,000	4457	87.8	85.7 - 89.8
\$25,000–34,999	1696	86.7	83.8 - 89.6
\$35,000–49,999	2199	84.1	81.5 - 86.7
\$50,000–74,999	2677	81.3	78.9 - 83.8
\$75,000+	5470	82.0	80.5 - 83.4
REGION			
I–WESTERN	2670	83.1	80.8 - 85.4
II–CENTRAL	2629	82.8	80.3 - 85.2
III–NORTH EAST	4648	84.5	82.5 - 86.4
IV–METRO WEST	2679	82.7	80.8 - 84.7
V–SOUTH EAST	4735	84.8	82.9 - 86.6
VI–BOSTON	2260	86.5	84.1 - 89.0

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

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## **SECTION 3: RISK FACTORS AND PREVENTIVE BEHAVIORS**

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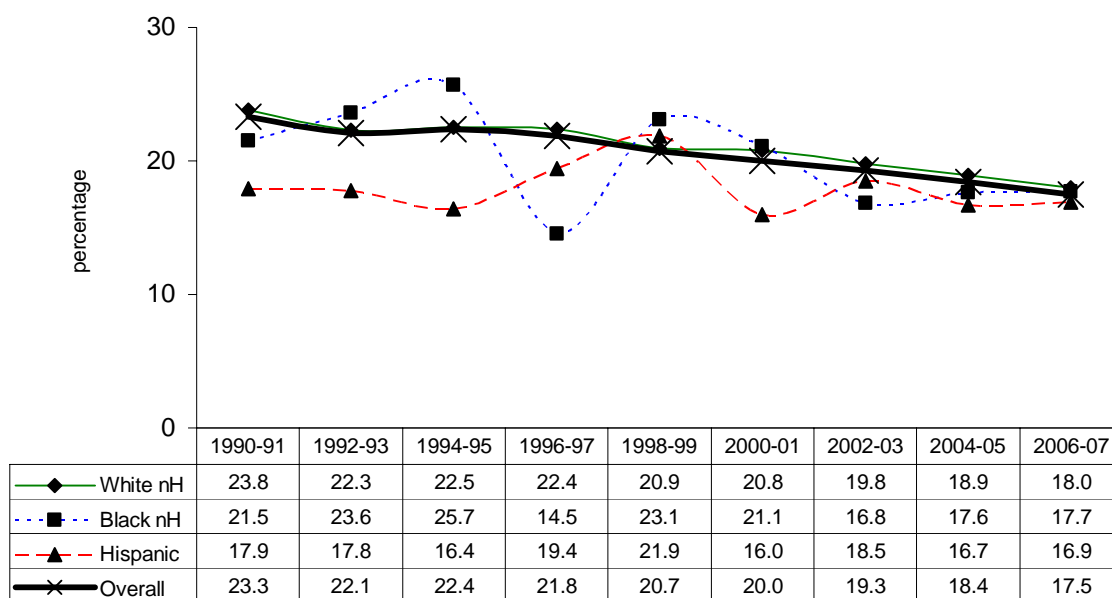
## **SECTION 3: RISK FACTORS AND PREVENTIVE BEHAVIORS**

### **Section 3.1: Tobacco Use**

Tobacco use is the leading preventable cause of death in the United States, resulting in approximately 440,000 deaths each year. More than 8.6 million people in the United States have at least one serious illness caused by smoking. It is a major risk factor for cancer, heart, and lung diseases. The health and economic burden of tobacco use has resulted in more than 2.7 billion dollars per year in health care costs in Massachusetts. The Massachusetts Tobacco Control Program was established in 1993 to control tobacco use and since the implementation of the program, the number of adults who smoke in Massachusetts has declined [9].

A current smoker was defined as someone who has smoked at least 100 cigarettes in their lifetime and who currently smokes either some days or everyday. A former smoker was defined as someone who has smoked at least 100 cigarettes in his/her lifetime but no longer smokes. Presented here are the percentage of adults who reported being current smokers and the percentage of adults who reported being former smokers. This report does not include the trend chart for former smoker status due to an insufficient number of continuous years of data to use in analyzing the trend.

**Figure 3.1.1: Percentage of adults who currently smoke, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS 2007

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↘	--
Black, non-Hispanic	→	↔
Hispanic	→	↔
Overall	↘	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.1 – TOBACCO USE AMONG MASSACHUSETTS ADULTS, 2007**

	CURRENT SMOKER			FORMER SMOKER		
	N	%	95% CI	N	%	95% CI
OVERALL	21420	16.4	15.6 - 17.2	18719	32.4	31.4 - 33.3
GENDER						
MALE	7584	17.3	16.0 - 18.7	6614	33.8	32.2 - 35.4
FEMALE	13836	15.5	14.6 - 16.4	12105	31.1	29.9 - 32.2
AGE GROUP						
18–24	754	23.6	19.2 - 28.0	633	7.6	4.3 - 10.9
25–34	2077	21.4	18.6 - 24.1	1742	20.5	17.7 - 23.3
35–44	3571	17.1	15.4 - 18.8	3027	23.8	21.8 - 25.7
45–54	4166	18.0	16.4 - 19.7	3487	34.4	32.3 - 36.6
55–64	4153	15.2	13.5 - 16.9	3594	45.7	43.4 - 48.1
65–74	3085	9.1	7.9 - 10.4	2802	52.6	50.0 - 55.3
75 AND OLDER	3271	5.4	4.3 - 6.4	3135	49.9	47.5 - 52.3
RACE-ETHNICITY*						
WHITE	17815	16.8	15.9 - 17.7	15521	35.7	34.6 - 36.8
BLACK	1000	16.9	13.0 - 20.8	863	16.1	12.8 - 19.4
HISPANIC	1660	17.2	13.6 - 20.9	1481	19.5	15.8 - 23.2
ASIAN	389	6.0	2.8 - 9.2	370	14.8	9.9 - 19.8
DISABILITY†						
DISABILITY	1396	21.7	18.2 - 25.2	1155	45.0	40.6 - 49.5
NO DISABILITY	3752	13.2	11.5 - 14.8	3384	32.3	30.0 - 34.5
EDUCATION						
< HIGH SCHOOL	2057	30.9	26.7 - 35.0	1648	29.9	26.0 - 33.8
HIGH SCHOOL	5836	24.3	22.3 - 26.2	4833	37.0	34.8 - 39.1
COLLEGE 1–3 YRS	4858	21.6	19.8 - 23.5	4064	37.2	34.9 - 39.4
COLLEGE 4+ YRS	8617	7.6	6.8 - 8.5	8130	28.6	27.3 - 29.9
HOUSEHOLD INCOME						
<\$25,000	4860	27.4	25.0 - 29.9	3905	34.2	31.7 - 36.7
\$25,000–34,999	1850	22.8	19.4 - 26.3	1566	35.1	31.5 - 38.7
\$35,000–49,999	2416	20.6	18.0 - 23.2	2071	39.7	36.6 - 42.9
\$50,000–74,999	2918	17.2	15.0 - 19.4	2556	35.4	32.7 - 38.1
\$75,000+	5985	10.2	9.0 - 11.3	5579	29.7	28.1 - 31.3
REGION						
I–WESTERN	2943	18.6	16.5 - 20.8	2558	35.6	33.0 - 38.2
II–CENTRAL	2860	18.9	16.7 - 21.2	2485	31.1	28.6 - 33.6
III–NORTH EAST	5089	16.9	15.0 - 18.8	4434	33.8	31.5 - 36.1
IV–METRO WEST	2908	11.1	9.5 - 12.7	2711	29.5	27.4 - 31.6
V–SOUTH EAST	5151	19.6	17.7 - 21.5	4315	37.3	35.0 - 39.5
VI–BOSTON	2469	14.5	12.2 - 16.9	2216	24.4	21.9 - 26.9

\* White, Black, and Asian race categories refer to non-Hispanic

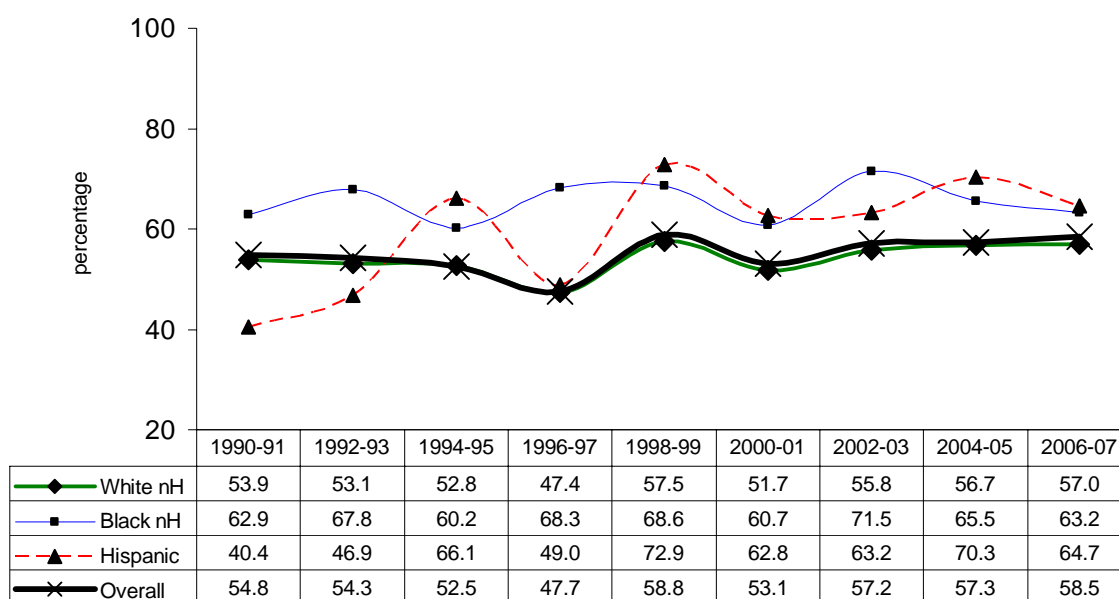
† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## Section 3.2: Smoking Cessation

Respondents who were current smokers were asked if they had stopped smoking for one day or longer in the past 12 months because they were trying to quit smoking. They were also asked if they had any intention of trying to quit smoking within the next 30 days. Presented here is the percentage of adult current smokers who reported that they had attempted to quit smoking for one day or longer in the past 12 months and the percentage of adult current smokers who reported that they had plans to quit smoking within the next 30 days.

**Figure 3.2.1: Percentage of smokers who quit for at least one day in the past year, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

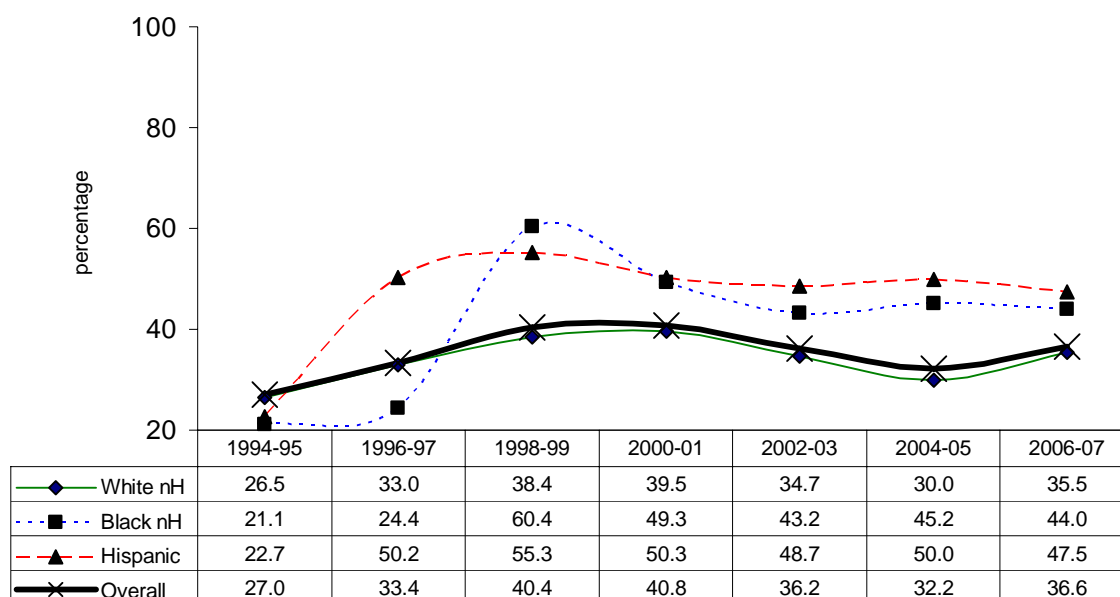
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↔
Hispanic	↗	↔
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**Figure 3.2.2: Percentage of smokers who plan to quit smoking in next 30 days, by race/ethnicity, MA 1994-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1994-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↔
Hispanic	→	↔
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.2 – SMOKING CESSATION AMONG MASSACHUSETTS ADULTS, 2007**

	QUIT ATTEMPT			PLANNING TO QUIT		
	N	%	95% CI	N	%	95% CI
OVERALL	3562	59.8	57.1 - 62.4	971	41.4	36.2 - 46.7
GENDER						
MALE	1294	59.5	55.2 - 63.9	377	42.0	33.9 - 50.1
FEMALE	2268	60.0	56.8 - 63.2	594	40.8	34.5 - 47.1
AGE GROUP						
18–24	178	69.9	60.4 - 79.5	†		
25–34	461	64.7	57.8 - 71.6	123	37.1	23.4 - 50.9
35–44	703	58.7	53.2 - 64.2	212	42.7	32.6 - 52.8
45–54	874	57.3	52.4 - 62.3	241	40.1	30.2 - 50.0
55–64	726	54.5	48.2 - 60.9	190	41.8	31.9 - 51.7
65–74	376	60.7	53.8 - 67.5	96	49.6	35.6 - 63.6
75 AND OLDER	187	36.6	27.2 - 45.9	51	40.7	23.5 - 57.9
RACE-ETHNICITY*						
WHITE	2976	58.6	55.7 - 61.5	836	40.6	35.0 - 46.2
BLACK	196	64.4	53.1 - 75.8	†		
HISPANIC	254	69.9	59.9 - 79.9	58	43.2	20.3 - 66.1
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	296	54.1	44.8 - 63.4	164	44.9	32.3 - 57.6
NO DISABILITY	515	56.5	49.8 - 63.2	275	34.6	26.1 - 43.1
EDUCATION						
< HIGH SCHOOL	509	55.1	46.5 - 63.7	148	41.1	27.0 - 55.3
HIGH SCHOOL	1269	61.9	57.5 - 66.4	349	44.6	36.0 - 53.2
COLLEGE 1–3 YRS	1035	59.4	54.6 - 64.2	264	38.4	28.4 - 48.5
COLLEGE 4+ YRS	739	59.8	54.2 - 65.3	207	40.9	30.5 - 51.3
HOUSEHOLD INCOME						
<\$25,000	1191	59.5	54.1 - 65.0	316	45.6	35.5 - 55.8
\$25,000–34,999	357	70.4	63.7 - 77.2	111	43.2	25.6 - 60.7
\$35,000–49,999	461	57.5	50.3 - 64.6	129	38.8	25.5 - 52.1
\$50,000–74,999	484	59.0	52.1 - 66.0	132	33.3	22.0 - 44.6
\$75,000+	596	57.5	51.8 - 63.2	179	40.8	30.5 - 51.2
REGION						
I–WESTERN	525	62.8	56.6 - 69.1	154	40.3	28.4 - 52.1
II–CENTRAL	504	61.4	54.9 - 67.9	133	32.0	20.9 - 43.1
III–NORTH EAST	854	62.8	56.7 - 69.0	244	39.1	27.9 - 50.3
IV–METRO WEST	289	52.3	44.5 - 60.1	67	43.2	27.7 - 58.8
V–SOUTH EAST	1033	56.8	51.4 - 62.2	281	48.7	37.5 - 60.0
VI–BOSTON	357	66.2	58.6 - 73.8	92	42.9	29.3 - 56.4

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

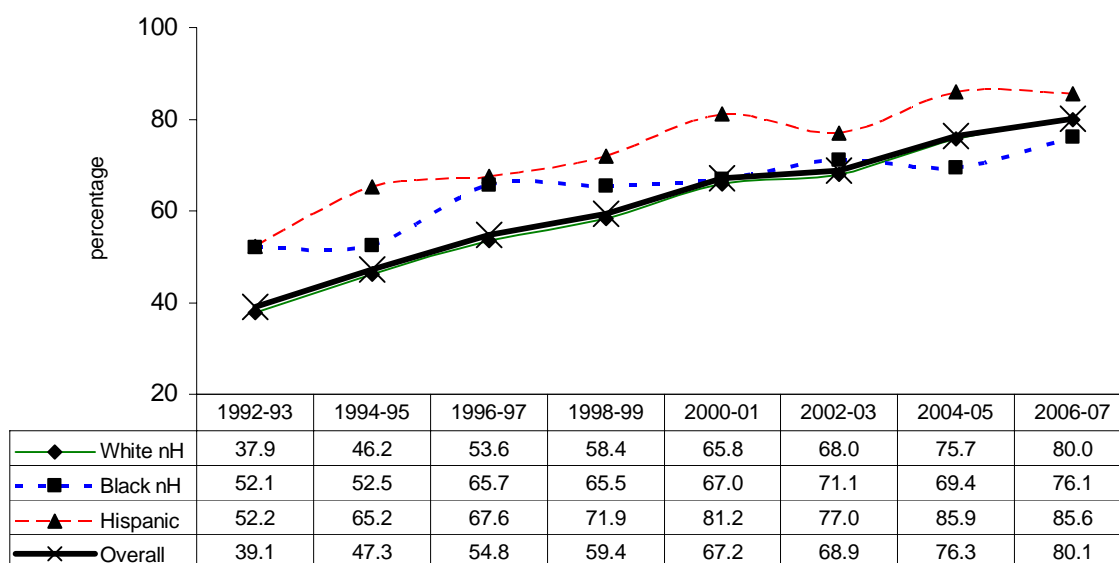
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.3: Environmental Tobacco Smoke**

Environmental tobacco smoke (ETS) is also referred to as secondhand smoke. Secondhand smoke includes both the smoke given off the burning end of tobacco products and the smoke exhaled by the smoker. Secondhand smoke has been linked to lung cancer deaths, heart disease, and respiratory illnesses, such as asthma and bronchitis in non-smoking adults. Nonsmokers exposed to secondhand smoke at home or work increase their risk of developing heart disease by 25 to 30 percent and lung cancer by 20 to 30 percent compared to those not exposed to secondhand smoke [10].

Respondents were asked about rules regarding smoking in their households. Answer selections were: no smoking is allowed, smoking is allowed in some places or at some times, or smoking is permitted anywhere in the household. Presented here is the percentage of respondents reporting that no smoking was allowed in their household. Respondents were also asked about exposure to environmental tobacco smoke at their home, work, or other places. ETS exposure was defined in one of two ways depending on whether respondents reported working outside the home or not on an earlier employment status question. Among the employed (including the self-employed), ETS exposure was defined as any report of exposure to ETS at work, at home, or in other places in the past 7 days. Among those not employed outside the home, ETS exposure was defined as any exposure to ETS at home or in other places in the past 7 days. This report does not include a trend chart for exposure to ETS due to an insufficient number of years of data to use in analyzing the trend.

**Figure 3.3: Percentage of adults who reported living in a home that does not allow smoking, by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↔
Hispanic	↗	↑
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.3 – ENVIRONMENTAL TOBACCO SMOKE AMONG MASSACHUSETTS ADULTS, 2007**

	LIVE IN A HOUSEHOLD WHERE SMOKING IS NOT ALLOWED			EXPOSED TO ENVIRONMENTAL TOBACCO SMOKE			
	N	%	95% CI	N	%	95% CI	
OVERALL	6507	81.5	80.0 - 83.1	6399	38.4	36.5 - 40.3	
GENDER							
MALE	2350	80.2	77.6 - 82.8	2304	41.5	38.4 - 44.7	
FEMALE	4157	82.8	81.1 - 84.5	4095	35.4	33.2 - 37.7	
AGE GROUP							
18–24	223	72.5	63.4 - 81.6	220	70.3	61.6 - 79.1	
25–34	597	82.2	76.7 - 87.7	585	46.1	39.9 - 52.3	
35–44	1119	83.5	80.4 - 86.6	1100	40.5	36.5 - 44.5	
45–54	1298	81.8	79.1 - 84.5	1275	37.0	33.2 - 40.8	
55–64	1239	80.0	77.0 - 83.1	1218	30.3	26.7 - 34.0	
65–74	953	82.2	78.9 - 85.4	941	28.0	24.1 - 31.8	
75 AND OLDER	985	82.5	79.4 - 85.6	972	19.9	16.5 - 23.2	
RACE-ETHNICITY*							
WHITE	5462	80.6	79.0 - 82.3	5381	37.3	35.3 - 39.3	
BLACK	282	79.7	72.5 - 86.9	273	49.0	38.9 - 59.0	
HISPANIC	472	87.7	80.7 - 94.7	462	43.7	35.2 - 52.3	
ASIAN	139	91.7	86.4 - 97.0	134	34.6	23.7 - 45.6	
DISABILITY†							
DISABILITY	847	73.6	68.8 - 78.5	831	42.3	37.1 - 47.5	
NO DISABILITY	2232	83.8	81.4 - 86.1	2209	35.5	32.4 - 38.6	
EDUCATION							
< HIGH SCHOOL	609	70.3	63.4 - 77.2	591	46.3	38.2 - 54.4	
HIGH SCHOOL	1784	73.1	69.5 - 76.7	1746	46.7	42.7 - 50.6	
COLLEGE 1–3 YRS	1458	77.7	74.2 - 81.2	1425	43.6	39.5 - 47.8	
COLLEGE 4+ YRS	2644	89.2	87.4 - 91.0	2625	30.6	28.0 - 33.3	
HOUSEHOLD INCOME							
<\$25,000	1459	70.5	66.0 - 75.1	1420	45.9	41.0 - 50.9	
\$25,000–34,999	564	69.7	63.2 - 76.2	550	47.8	40.8 - 54.9	
\$35,000–49,999	733	79.4	74.8 - 84.1	726	45.6	39.8 - 51.3	
\$50,000–74,999	880	79.8	75.7 - 83.8	868	38.3	33.4 - 43.2	
\$75,000+	1886	88.8	86.7 - 91.0	1870	34.0	30.9 - 37.1	
REGION							
I–WESTERN	898	79.6	75.6 - 83.6	887	39.6	34.7 - 44.6	
II–CENTRAL	883	80.4	76.6 - 84.3	873	39.2	34.3 - 44.2	
III–NORTH EAST	1526	80.3	76.1 - 84.4	1493	39.2	34.7 - 43.8	
IV–METRO WEST	878	86.5	83.4 - 89.7	872	31.3	27.1 - 35.5	
V–SOUTH EAST	1578	80.0	76.7 - 83.3	1549	41.7	37.5 - 46.0	
VI–BOSTON	744	79.1	75.0 - 83.1	725	45.4	39.9 - 50.9	

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

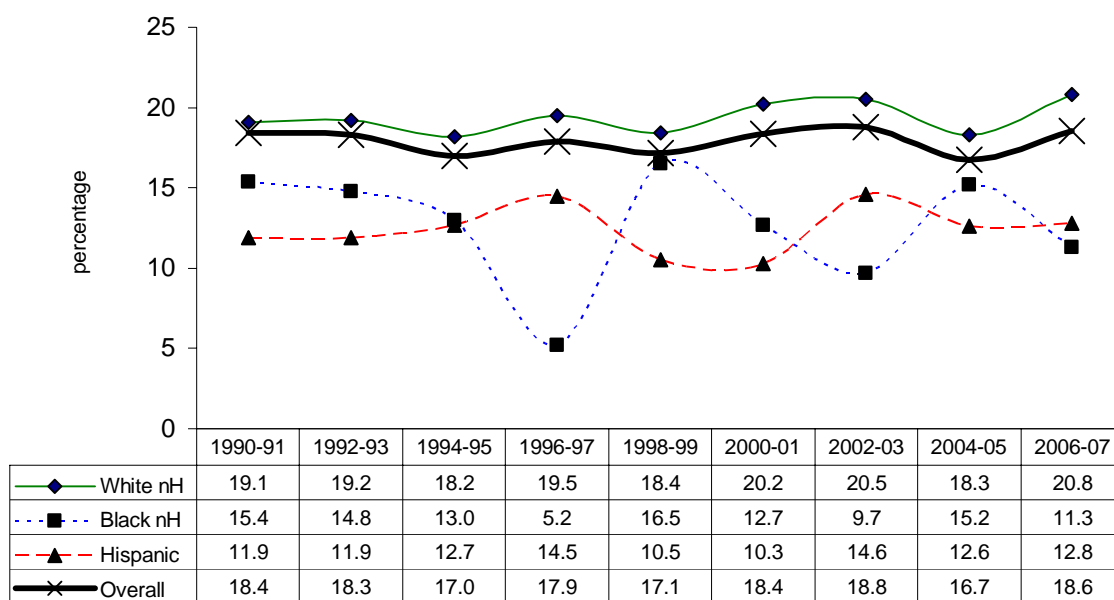
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.4: Alcohol Use**

Excessive alcohol consumption is the third leading preventable cause of death in the United States [11]. Excessive drinking, including binge and heavy drinking, has numerous chronic effects including cirrhosis of the liver, pancreatitis, high blood pressure, stroke, and various cancers. Alcohol abuse can cause unintentional injuries, motor vehicle accidents, alcohol poisonings, and contributes to violence, and suicides [12]. In 2005, driving while under the influence of alcohol accounted for 171 alcohol-related fatalities in Massachusetts – 39% of the total traffic fatalities for the year [13].

All respondents were asked about their consumption of alcohol in the past month. A drink of alcohol was defined as one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. Binge drinking was defined as consumption of five or more drinks on any one occasion in the past month. Heavy drinking was defined as consumption of more than 60 drinks in the past month for men and consumption of more than 30 drinks in the past month for women. Presented here are the percentage of adults who reported binge drinking and the percentage of adults who reported heavy drinking. This report does not include the trend chart for reporting heavy drinking due to an insufficient number of continuous years of data to use in analyzing the trend.

**Figure 3.4.1: Percentage of adults who report binge drinking, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↑
Hispanic	→	↑
Overall	→	↑

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.4 – ALCOHOL USE AMONG MASSACHUSETTS ADULTS, 2007**

	BINGE DRINKING			HEAVY DRINKING**		
	N	%	95% CI	N	%	95% CI
OVERALL	20881	17.5	16.6 - 18.4	20857	6.0	5.5 - 6.6
GENDER						
MALE	7369	23.4	21.8 - 25.0	7360	6.9	5.9 - 7.8
FEMALE	13512	12.1	11.2 - 13.0	13497	5.3	4.7 - 5.8
AGE GROUP						
18–24	726	35.9	30.7 - 41.0	719	8.2	5.3 - 11.1
25–34	2030	26.6	23.7 - 29.5	2025	6.4	4.9 - 8.0
35–44	3474	20.6	18.7 - 22.5	3471	6.0	5.0 - 7.1
45–54	4056	16.3	14.6 - 17.9	4055	6.4	5.3 - 7.6
55–64	4047	11.2	9.5 - 13.0	4046	6.8	5.4 - 8.3
65–74	3027	5.4	4.4 - 6.5	3024	5.4	4.3 - 6.4
75 AND OLDER	3210	2.3	1.6 - 3.0	3207	2.7	1.9 - 3.5
RACE-ETHNICITY*						
WHITE	17366	18.6	17.6 - 19.6	17359	6.4	5.8 - 7.0
BLACK	978	13.8	10.0 - 17.7	980	4.3	2.2 - 6.4
HISPANIC	1626	14.9	11.4 - 18.4	1611	5.9	3.2 - 8.5
ASIAN	381	4.3	1.9 6.6	†		
DISABILITY¶						
DISABILITY	1387	12.9	9.3 - 16.4	1386	4.9	2.7 - 7.2
NO DISABILITY	3703	17.2	15.3 19.1	3687	5.4	4.2 6.5
EDUCATION						
< HIGH SCHOOL	2015	15.9	12.1 - 19.7	2015	5.2	2.8 - 7.7
HIGH SCHOOL	5661	18.0	16.1 - 19.9	5641	6.1	4.9 - 7.2
COLLEGE 1–3 YRS	4722	19.4	17.4 - 21.3	4730	7.2	6.0 - 8.5
COLLEGE 4+ YRS	8433	16.6	15.3 - 17.8	8421	5.5	4.9 - 6.2
HOUSEHOLD INCOME						
<\$25,000	4772	14.9	12.6 - 17.2	4762	4.9	3.5 - 6.3
\$25,000–34,999	1807	13.6	10.5 - 16.6	1808	6.1	4.3 - 7.9
\$35,000–49,999	2359	17.8	15.1 - 20.4	2360	6.3	4.9 - 7.7
\$50,000–74,999	2840	19.7	17.2 - 22.1	2841	7.9	6.2 - 9.6
\$75,000+	5884	20.6	19.1 - 22.1	5885	6.5	5.6 - 7.4
REGION						
I–WESTERN	2872	16.3	14.1 - 18.5	2868	6.2	4.8 - 7.5
II–CENTRAL	2807	17.7	15.4 - 20.1	2795	6.0	4.6 - 7.4
III–NORTH EAST	4929	18.1	16.0 - 20.2	4928	6.2	4.8 - 7.5
IV–METRO WEST	2842	18.1	16.1 - 20.2	2843	6.3	5.1 - 7.5
V–SOUTH EAST	5023	17.5	15.4 - 19.5	5014	6.1	5.0 - 7.3
VI–BOSTON	2408	16.0	13.7 - 18.3	2409	4.6	3.5 - 5.7

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

\*\* Rates may not be comparable to rates published prior to 2001 due to a change in the definition of heavy drinking.

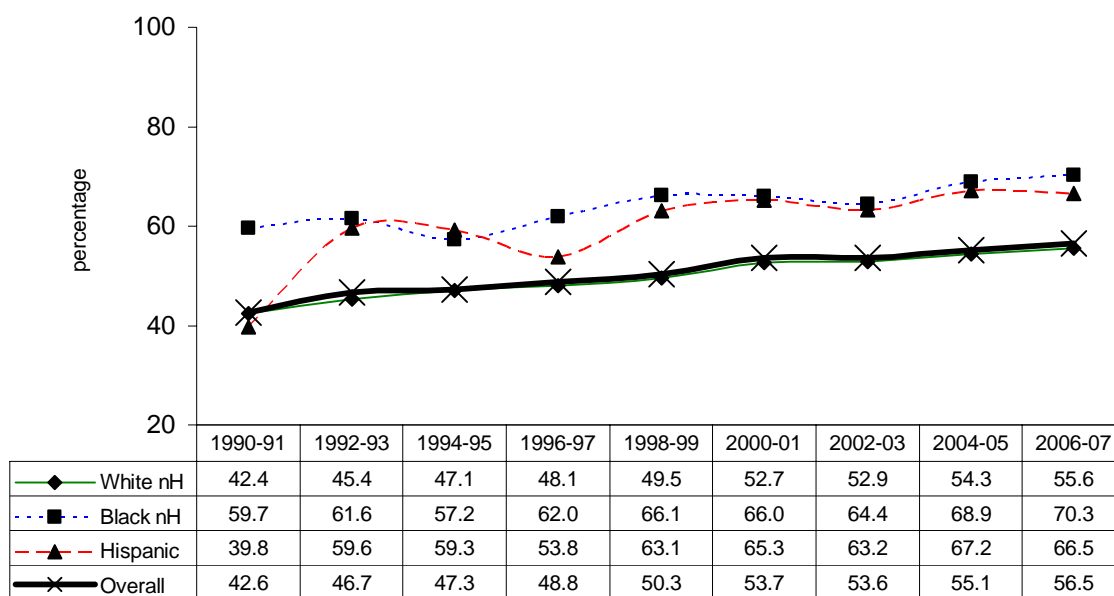
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.5: Overweight and Obesity Status**

Obese and/or overweight adults are at increased risk of developing serious health conditions such as hypertension, dyslipidemia, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and certain cancers, including endometrial, breast, and colon cancer. An estimated 1.82 billion dollars in medical expenses are attributable to adult obesity in Massachusetts [14].

All respondents were asked to report their height and weight. Respondents' overweight status and obesity status were categorized based on their Body Mass Index (BMI), which equals weight in kilograms divided by height in meters squared. Using the Healthy People 2010 standards (HP2010), all adults with a BMI between 25.0 and 29.9 were classified as being overweight and adults with a BMI greater than or equal to 30.0 were classified as being obese. For example, a person who is 5'6" would be considered overweight at 155 pounds (BMI = 25) and obese at 186 pounds (BMI = 30). Presented here are the percentages of respondents who were determined to be overweight and obese. Please note that the overweight category includes all adults with a BMI of greater than 25.0. This includes obese respondents.

**Figure 3.5.1: Percentage of adults who report overweight or obesity, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

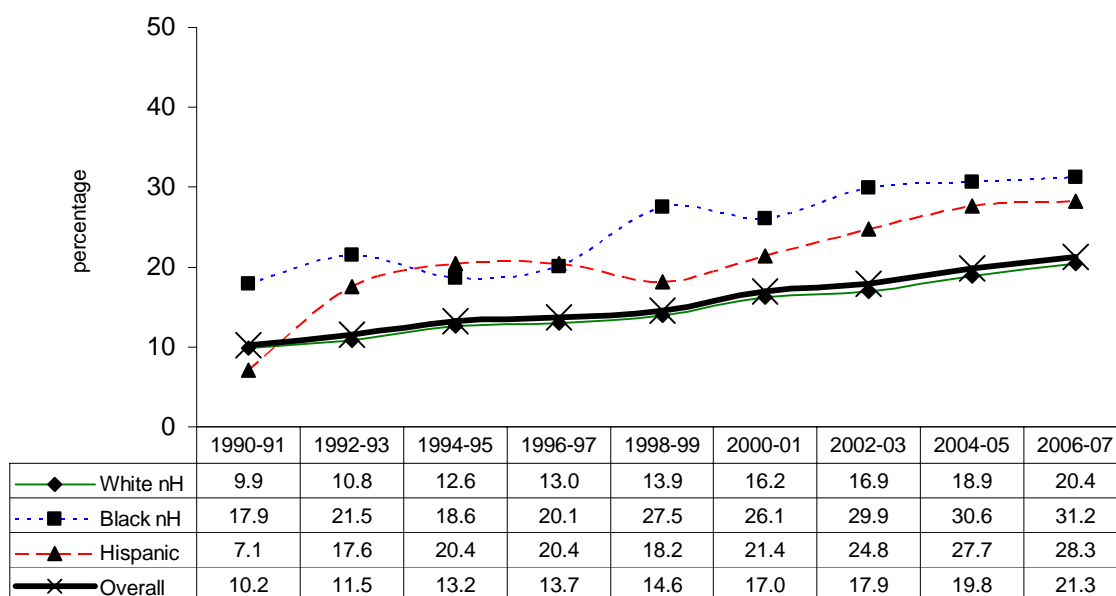
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↓
Hispanic	↗	↓
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**Figure 3.5.2: Percentage of adults who report obesity, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↓
Hispanic	↗	↓
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.5 – OVERWEIGHT AND OBESITY AMONG MASSACHUSETTS ADULTS, 2007**

	OVERWEIGHT (BMI ≥ 25.0)			OBESE (BMI ≥ 30.0)		
	N	%	95% CI	N	%	95% CI
OVERALL	20323	58.9	57.8 - 60.0	20323	21.7	20.9 - 22.6
GENDER						
MALE	7478	69.2	67.6 - 70.9	7478	23.6	22.1 - 25.0
FEMALE	12845	49.0	47.7 - 50.3	12845	20.0	19.0 - 21.0
AGE GROUP						
18–24	721	37.0	32.0 - 42.1	721	13.3	10.0 - 16.6
25–34	1981	55.5	52.2 - 58.7	1981	19.7	17.1 - 22.3
35–44	3408	60.0	57.8 - 62.3	3408	22.1	20.1 - 24.0
45–54	3934	61.5	59.4 - 63.6	3934	24.7	22.8 - 26.7
55–64	3943	68.3	66.3 - 70.4	3943	27.6	25.5 - 29.8
65–74	2952	67.3	65.0 - 69.7	2952	24.8	22.7 - 26.9
75 AND OLDER	3168	53.7	51.3 - 56.1	3168	14.9	13.1 - 16.7
RACE-ETHNICITY*						
WHITE	16985	58.7	57.6 - 59.8	16985	21.9	20.9 - 22.8
BLACK	950	70.1	65.4 - 74.9	950	26.4	22.0 - 30.7
HISPANIC	1518	65.7	61.1 - 70.2	1518	25.8	22.1 - 29.5
ASIAN	375	33.7	26.9 - 40.4	375	4.6	2.1 - 7.0
DISABILITY <sup>†</sup>						
DISABILITY	1332	68.6	64.8 - 72.5	1332	31.8	27.9 - 35.7
NO DISABILITY	3581	57.6	55.2 - 60.0	3581	18.7	16.9 - 20.5
EDUCATION						
< HIGH SCHOOL	1921	65.7	61.6 - 69.9	1921	32.5	28.5 - 36.6
HIGH SCHOOL	5504	63.2	61.1 - 65.4	5504	26.6	24.7 - 28.6
COLLEGE 1–3 YRS	4592	61.0	58.7 - 63.2	4592	23.6	21.7 - 25.5
COLLEGE 4+ YRS	8265	54.8	53.3 - 56.4	8265	16.8	15.7 - 18.0
HOUSEHOLD INCOME						
<\$25,000	4656	64.8	62.4 - 67.2	4656	28.8	26.5 - 31.2
\$25,000–34,999	1771	62.9	59.3 - 66.5	1771	24.2	20.9 - 27.5
\$35,000–49,999	2316	61.5	58.4 - 64.6	2316	27.2	24.3 - 30.1
\$50,000–74,999	2798	62.0	59.2 - 64.8	2798	21.6	19.3 - 23.9
\$75,000+	5825	56.6	54.8 - 58.4	5825	18.8	17.4 - 20.2
REGION						
I–WESTERN	2777	62.2	59.5 - 64.8	2777	25.3	23.0 - 27.7
II–CENTRAL	2728	61.3	58.5 - 64.0	2728	23.2	20.8 - 25.5
III–NORTH EAST	4781	60.9	58.6 - 63.3	4781	23.8	21.7 - 26.0
IV–METRO WEST	2778	53.1	50.6 - 55.5	2778	17.2	15.4 - 19.0
V–SOUTH EAST	4903	60.4	58.1 - 62.7	4903	22.5	20.5 - 24.4
VI–BOSTON	2356	57.9	54.8 - 61.1	2356	20.0	17.8 - 22.1

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

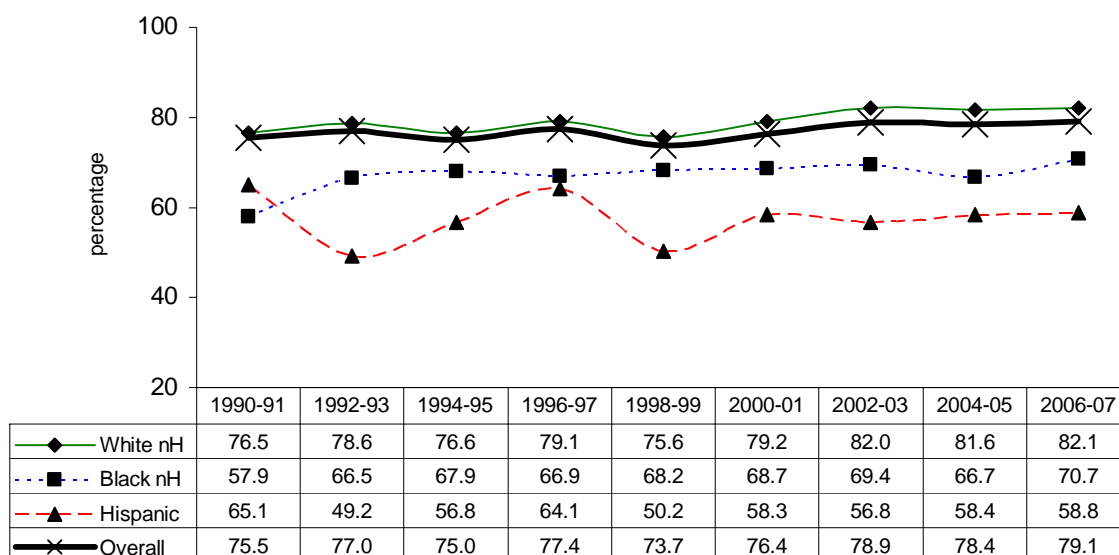
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.6: Physical Activity**

Regular physical activity reduces a person's risk for heart attack, colon cancer, diabetes, and high blood pressure, and helps to reduce the risk of stroke. Additionally, it helps to control weight, contributes to healthy bones, muscles, and joints, reduces falls among older adults, helps to relieve the pain of arthritis, reduces symptoms of anxiety and depression, and is associated with fewer hospitalizations, physician visits, and medications [15].

All respondents were asked if they had participated in moderate or vigorous physical activity, other than as part of their regular job, in the past month and whether they had engaged in vigorous physical activity, other than as part of their regular job, in the past month. Presented here are the percentages of respondents who reported that they engaged in moderate and vigorous leisure time physical activity. Moderate activity was defined as engaging in activities that caused a small increase in heart rate for at least 10 minutes at a time. Vigorous activity was defined as engaging in intense physical activities for at least 10 minutes at a time, such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate. This report does not include the trend chart for reporting vigorous physical activity due to an insufficient number of continuous years of data to use in analyzing the trend.

**Figure 3.6: Percentage of adults who participated in moderate or vigorous leisure time physical activity, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↓
Hispanic	→	↓
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.6 – MODERATE OR VIGOROUS LEISURE TIME PHYSICAL ACTIVITY AMONG MASSACHUSETTS ADULTS, 2007**

	MODERATE OR VIGOROUS PHYSICAL ACTIVITY				VIGOROUS PHYSICAL ACTIVITY			
	N	%	95% CI		N	%	95% CI	
OVERALL	19903	51.4	50.3	- 52.5	20370	29.7	28.7	- 30.7
GENDER								
MALE	7113	51.4	49.7	- 53.2	7199	32.9	31.2	- 34.6
FEMALE	12790	51.4	50.1	- 52.7	13171	26.8	25.6	- 28.0
AGE GROUP								
18–24	697	61.2	55.8	- 66.5	700	42.7	37.3	- 48.1
25–34	1931	53.3	49.9	- 56.6	1958	36.6	33.4	- 39.8
35–44	3352	52.6	50.3	- 54.9	3390	32.7	30.6	- 34.9
45–54	3928	54.6	52.4	- 56.8	3978	31.6	29.5	- 33.6
55–64	3875	49.8	47.5	- 52.1	3966	24.6	22.7	- 26.6
65–74	2903	48.1	45.5	- 50.7	2985	19.9	17.9	- 21.9
75 AND OLDER	2928	35.7	33.3	- 38.1	3092	12.5	10.8	- 14.2
RACE-ETHNICITY*								
WHITE	16641	53.4	52.3	- 54.6	17026	30.7	29.7	- 31.8
BLACK	892	41.7	36.3	- 47.1	922	25.6	20.8	- 30.3
HISPANIC	1504	41.7	37.0	- 46.4	1538	23.5	19.2	- 27.8
ASIAN	361	39.1	32.0	- 46.2	368	22.3	16.2	- 28.3
DISABILITY†								
DISABILITY	1343	40.5	36.3	- 44.6	1383	16.4	13.0	- 19.9
NO DISABILITY	3641	55.3	52.9	- 57.7	3717	33.2	30.9	- 35.5
EDUCATION								
< HIGH SCHOOL	1822	36.1	31.8	- 40.4	1900	15.0	11.6	- 18.5
HIGH SCHOOL	5299	47.1	44.9	- 49.4	5474	24.7	22.7	- 26.7
COLLEGE 1–3 YRS	4517	51.2	48.9	- 53.5	4639	28.2	26.1	- 30.3
COLLEGE 4+ YRS	8222	55.8	54.3	- 57.4	8310	35.1	33.6	- 36.6
HOUSEHOLD INCOME								
<\$25,000	4429	40.5	37.8	- 43.1	4574	18.5	16.3	- 20.7
\$25,000–34,999	1724	42.2	38.5	- 46.0	1760	20.6	17.6	- 23.7
\$35,000–49,999	2256	51.7	48.5	- 55.0	2310	27.4	24.5	- 30.4
\$50,000–74,999	2774	54.3	51.5	- 57.2	2813	30.6	27.9	- 33.3
\$75,000+	5737	56.7	54.9	- 58.5	5777	37.6	35.8	- 39.3
REGION								
I–WESTERN	2750	51.7	49.0	- 54.4	2801	28.6	26.0	- 31.1
II–CENTRAL	2677	48.3	45.5	- 51.1	2734	27.6	25.1	- 30.2
III–NORTH EAST	4694	50.4	47.9	- 52.9	4813	28.3	26.0	- 30.6
IV–METRO WEST	2733	53.4	51.0	- 55.8	2787	32.5	30.2	- 34.8
V–SOUTH EAST	4760	53.3	51.0	- 55.7	4901	31.4	29.1	- 33.7
VI–BOSTON	2289	48.8	45.5	- 52.1	2334	26.5	23.7	- 29.4

\* White, Black, and Asian race categories refer to non-Hispanic

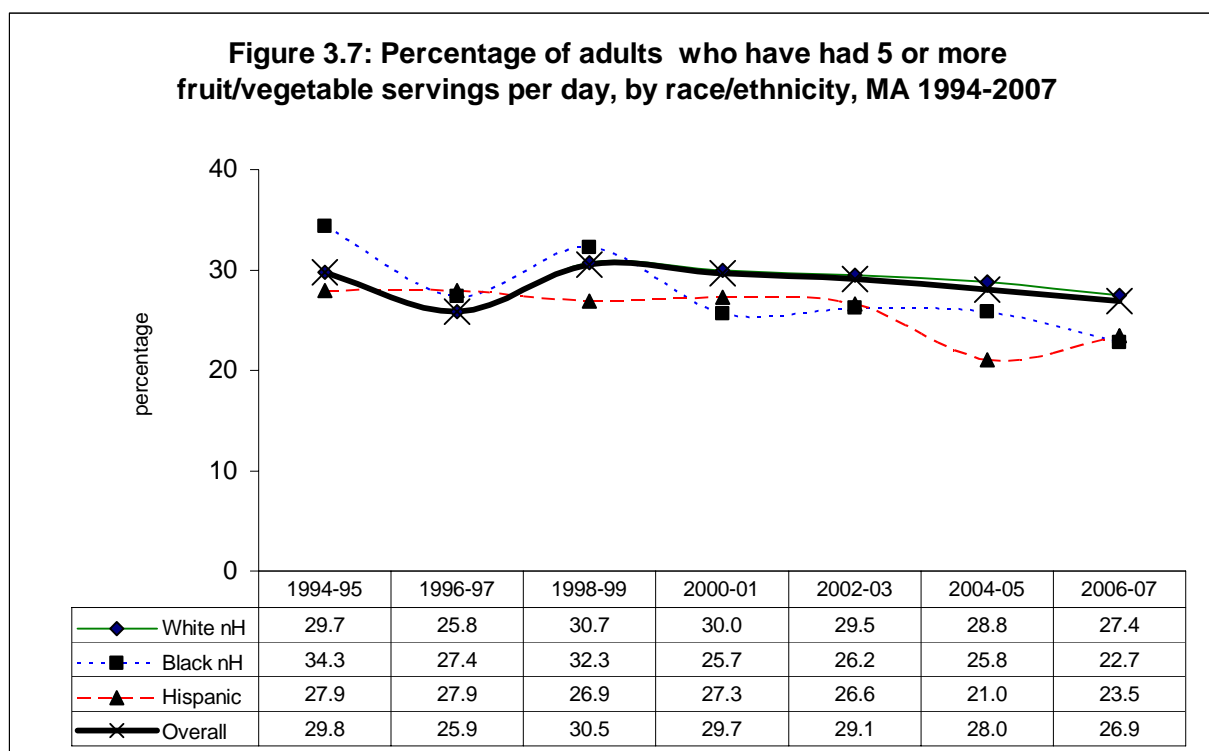
† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## Section 3.7: Fruit and Vegetable Consumption

A diet rich in fruits and vegetables not only aids in weight management, but also has been associated with a decreased risk for chronic diseases [16]. The goal for Healthy People 2010 is to ensure that at least 75% of adults consume at least two servings of fruit and for 50% of adults to consume at least 3 daily servings of vegetables (including at least one serving of dark green or orange vegetables) per day.

All respondents were asked approximately how many servings of fruits and vegetables they consumed each day. Presented here is the percentage of respondents who stated that they consumed at least five servings of fruits or vegetables per day.



Race	Trend from 1994-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	↘	↔
Hispanic	↘	↔
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.7: FRUIT AND VEGETABLE CONSUMPTION  
AMONG MASSACHUSETTS ADULTS, 2007**

	5 OR MORE SERVINGS OF FRUIT OR VEGETABLES		
	N	%	95% CI
OVERALL	20962	27.5	26.6 - 28.5
GENDER			
MALE	7418	21.2	19.8 - 22.6
FEMALE	13544	33.3	32.1 - 34.4
AGE GROUP			
18–24	727	25.8	21.1 - 30.6
25–34	2014	25.9	23.1 - 28.7
35–44	3487	26.4	24.4 - 28.4
45–54	4075	27.0	25.1 - 28.8
55–64	4076	28.0	26.0 - 30.0
65–74	3055	28.0	25.8 - 30.2
75 AND OLDER	3209	34.7	32.4 - 37.0
RACE-ETHNICITY*			
WHITE	17463	27.8	26.9 - 28.8
BLACK	964	22.3	18.2 - 26.5
HISPANIC	1616	23.4	19.6 - 27.2
ASIAN	380	30.9	24.5 - 37.3
DISABILITY†			
DISABILITY	1397	24.1	20.7 - 27.5
NO DISABILITY	3767	27.8	25.7 - 29.8
EDUCATION			
< HIGH SCHOOL	1999	18.4	15.1 - 21.7
HIGH SCHOOL	5663	20.5	18.8 - 22.2
COLLEGE 1–3 YRS	4761	27.6	25.6 - 29.6
COLLEGE 4+ YRS	8489	32.5	31.0 - 33.9
HOUSEHOLD INCOME			
<\$25,000	4736	24.8	22.6 - 26.9
\$25,000–34,999	1804	23.5	20.5 - 26.6
\$35,000–49,999	2368	28.6	25.8 - 31.4
\$50,000–74,999	2862	28.1	25.6 - 30.6
\$75,000+	5899	29.5	27.9 - 31.1
REGION			
I–WESTERN	2886	26.8	24.4 - 29.2
II–CENTRAL	2803	27.9	25.5 - 30.4
III–NORTH EAST	4972	26.2	24.2 - 28.2
IV–METRO WEST	2866	31.6	29.4 - 33.7
V–SOUTH EAST	5026	25.1	23.2 - 27.0
VI–BOSTON	2409	25.4	22.7 - 28.1

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

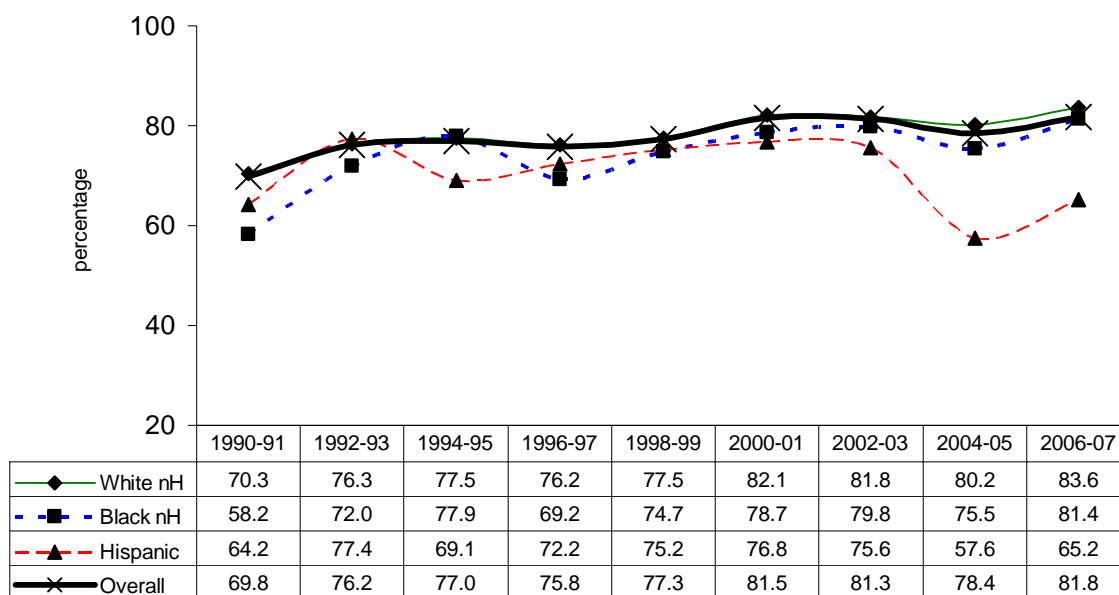
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.8: Cholesterol Awareness**

High cholesterol, defined as total serum cholesterol over 199 mg/dL, is an important risk factor for cardiovascular disease [17]. Researchers consider it important to discern cholesterol awareness in various populations so that prevention efforts may be more targeted [17]. Reducing the proportion of people with high serum cholesterol levels to 17% or less is one of the objectives listed in Healthy People 2010.

All respondents were asked about whether they had ever had their cholesterol tested, and, if so, how long it had been since they last had it tested. Respondents who indicated that they had ever had their cholesterol tested were asked if they had ever been told by a doctor, nurse, or other medical professional that they had high cholesterol. Below are the percentages of respondents who indicated that they had had their cholesterol tested in the past five years and the percentage of respondents who had ever been tested and told that they have high cholesterol.

**Figure 3.8.1: Percentage of adults who reported that they had had their cholesterol checked in the past 5 years, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages age-adjusted to standard population (U.S. 2000)

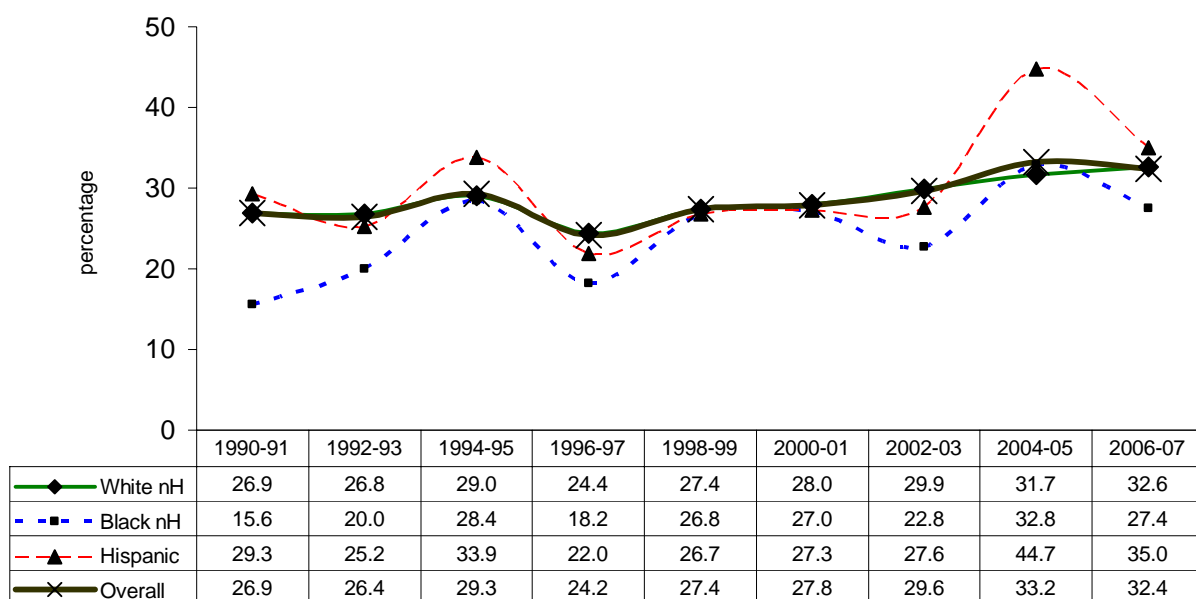
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↔
Hispanic	→	↓
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**Figure 3.8.2: Percentage of respondents who reported that they had ever been told they had high cholesterol, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	↗	↑
Hispanic	→	↔
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.8 – CHOLESTEROL AWARENESS AMONG MASSACHUSETTS ADULTS, 2007**

	CHOLESTEROL CHECKED IN PAST 5 YEARS			HIGH CHOLESTEROL**		
	N	%	95% CI	N	%	95% CI
OVERALL	20947	84.6	83.8 - 85.5	19055	35.6	34.6 - 36.7
GENDER						
MALE	7436	82.1	80.5 - 83.6	6674	38.7	37.0 - 40.4
FEMALE	13511	87.0	86.1 - 87.9	12381	33.0	31.9 - 34.2
AGE GROUP						
18–24	686	48.8	43.3 - 54.4	360	11.0	7.0 - 15.1
25–34	1972	68.0	64.8 - 71.2	1469	18.6	15.7 - 21.5
35–44	3500	85.2	83.6 - 86.8	3086	25.3	23.2 - 27.4
45–54	4128	91.6	90.4 - 92.9	3864	36.4	34.3 - 38.6
55–64	4123	94.6	93.3 - 95.8	3943	51.1	48.9 - 53.4
65–74	3046	96.8	96.0 - 97.5	2957	55.7	53.1 - 58.3
75 AND OLDER	3160	95.6	94.6 - 96.7	3063	50.5	48.1 - 53.0
RACE-ETHNICITY*						
WHITE	17430	87.6	86.8 - 88.5	16360	36.9	35.8 - 38.0
BLACK	975	82.4	78.5 - 86.3	835	26.9	22.1 - 31.7
HISPANIC	1617	61.8	57.3 - 66.2	1069	33.6	28.9 - 38.3
ASIAN	385	74.6	68.2 - 80.9	309	24.4	18.3 - 30.5
DISABILITY†						
DISABILITY	1368	86.5	83.1 - 89.9	1278	49.4	45.2 - 53.7
NO DISABILITY	3690	85.1	83.2 - 87.0	3308	34.8	32.5 - 37.2
EDUCATION						
< HIGH SCHOOL	1984	66.7	62.2 - 71.2	1600	51.4	47.0 - 55.7
HIGH SCHOOL	5686	81.1	79.1 - 83.1	5052	39.6	37.4 - 41.7
COLLEGE 1–3 YRS	4731	84.2	82.3 - 86.1	4338	37.7	35.6 - 39.9
COLLEGE 4+ YRS	8500	89.3	88.2 - 90.3	8026	31.2	29.8 - 32.6
HOUSEHOLD INCOME						
<\$25,000	4726	76.4	73.8 - 79.0	4074	46.5	43.9 - 49.1
\$25,000–34,999	1796	77.6	73.8 - 81.3	1610	38.8	35.3 - 42.4
\$35,000–49,999	2379	84.7	81.9 - 87.4	2180	39.2	36.1 - 42.2
\$50,000–74,999	2873	86.9	84.7 - 89.1	2677	33.6	31.0 - 36.2
\$75,000+	5924	89.3	88.1 - 90.6	5607	30.9	29.3 - 32.5
REGION						
I–WESTERN	2866	82.1	79.7 - 84.6	2563	37.3	34.8 - 39.9
II–CENTRAL	2801	84.5	82.3 - 86.7	2557	34.3	31.6 - 36.9
III–NORTH EAST	4966	84.9	82.9 - 86.8	4474	36.1	33.8 - 38.5
IV–METRO WEST	2863	87.6	85.7 - 89.5	2711	32.6	30.4 - 34.7
V–SOUTH EAST	5026	86.0	84.1 - 87.8	4613	38.9	36.7 - 41.2
VI–BOSTON	2425	77.8	74.4 - 81.2	2137	35.7	32.8 - 38.5

\*White, Black, and Asian race categories refer to non-Hispanic

\*\* Analysis conducted among those who reported having their cholesterol checked

† Insufficient data

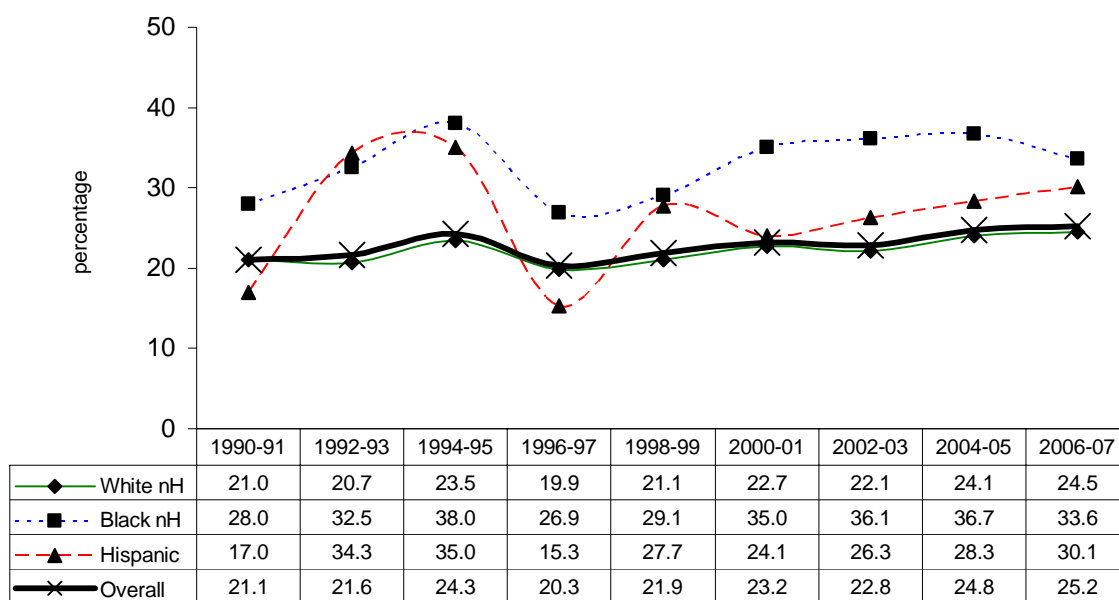
‡ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.9: Hypertension Awareness**

Hypertension, commonly known as “high blood pressure,” is a risk factor for many conditions including heart disease, kidney failure, stroke, and disability [18]. According to the CDC, approximately one in four U.S. adults has hypertension [18]. Hypertension is defined as having an average systolic blood pressure greater than or equal to 140 mm Hg or diastolic blood pressure greater than or equal to 90 mm Hg [18]. To reduce the incidence of chronic diseases and potentially fatal conditions resulting from hypertension, the Healthy People 2010 goal is to reduce the proportion of U.S. adults with high blood pressure to 14% or less.

All respondents were asked if a doctor, nurse, or other health professional had ever told them that they had high blood pressure. Respondents who answered yes were then asked if they were taking medication for their high blood pressure. Presented below are the percentages of respondents who had been told that they had high blood pressure and, if so, if they are currently taking medication to treat it. This report does not include the trend chart for reporting taking medicine for high blood pressure due to an insufficient number of continuous years of data to use in analyzing the trend.

**Figure 3.9: Percentage of adults who had ever been told that they have hypertension, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	→	↓
Hispanic	→	↓
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 3.9 – HYPERTENSION AWARENESS AMONG MASSACHUSETTS ADULTS, 2007**

	HIGH BLOOD PRESSURE			TAKE MEDICINE FOR HIGH BLOOD PRESSURE**		
	N	%	95% CI	N	%	95% CI
OVERALL	21477	26.4	25.6 - 27.2	7643	79.9	78.3 - 81.6
GENDER						
MALE	7598	27.4	26.0 - 28.8	2807	75.9	73.2 - 78.6
FEMALE	13879	25.5	24.6 - 26.5	4836	83.9	82.1 - 85.7
AGE GROUP						
18–24	755	5.9	3.7 - 8.1	†		
25–34	2083	8.3	6.6 - 10.1	194	29.1	19.6 - 38.6
35–44	3579	13.2	11.7 - 14.8	509	57.2	51.0 - 63.4
45–54	4178	25.7	23.8 - 27.7	1158	78.4	74.7 - 82.1
55–64	4163	42.9	40.7 - 45.2	1796	85.9	82.9 - 88.8
65–74	3094	56.1	53.6 - 58.6	1780	93.7	92.1 - 95.3
75 AND OLDER	3277	59.5	57.2 - 61.8	2012	94.3	92.9 - 95.7
RACE-ETHNICITY*						
WHITE	17854	27.3	26.4 - 28.2	6428	80.6	78.8 - 82.3
BLACK	1005	30.4	25.8 - 35.1	405	74.8	66.3 - 83.2
HISPANIC	1668	23.5	20.2 - 26.8	578	78.0	71.6 - 84.4
ASIAN	393	10.2	6.4 - 14.1	53	85.3	72.4 - 98.1
DISABILITY <sup>¶</sup>						
DISABILITY	1395	42.0	38.1 - 45.9	702	82.3	77.1 - 87.5
NO DISABILITY	3767	23.6	21.8 - 25.5	1172	78.1	74.1 - 82.1
EDUCATION						
< HIGH SCHOOL	2065	39.6	35.7 - 43.5	1071	79.8	73.7 - 85.9
HIGH SCHOOL	5854	33.0	31.1 - 34.8	2475	80.1	77.2 - 83.0
COLLEGE 1–3 YRS	4865	27.4	25.6 - 29.3	1698	80.9	77.7 - 84.2
COLLEGE 4+ YRS	8638	20.5	19.4 - 21.6	2377	79.3	76.7 - 82.0
HOUSEHOLD INCOME						
<\$25,000	4869	38.9	36.6 - 41.3	2344	80.3	76.7 - 83.9
\$25,000–34,999	1852	32.1	29.0 - 35.2	782	85.1	81.1 - 89.1
\$35,000–49,999	2421	26.6	24.2 - 29.0	870	81.8	77.7 - 86.0
\$50,000–74,999	2922	26.4	24.2 - 28.7	903	77.4	72.9 - 81.9
\$75,000+	6005	19.1	17.8 - 20.4	1374	76.9	73.5 - 80.3
REGION						
I–WESTERN	2942	29.3	27.1 - 31.5	1149	79.6	75.8 - 83.4
II–CENTRAL	2870	25.3	23.1 - 27.5	979	80.7	76.6 - 84.7
III–NORTH EAST	5100	27.1	25.1 - 29.1	1813	79.5	75.5 - 83.5
IV–METRO WEST	2926	23.7	21.9 - 25.5	923	79.8	75.9 - 83.8
V–SOUTH EAST	5161	29.0	27.1 - 30.9	1959	80.1	76.6 - 83.6
VI–BOSTON	2478	23.7	21.5 - 25.9	820	80.1	76.3 - 84.0

\*White, Black, and Asian race categories refer to non-Hispanic

\*\* Analysis conducted among those who reported having high blood pressure

† Insufficient data

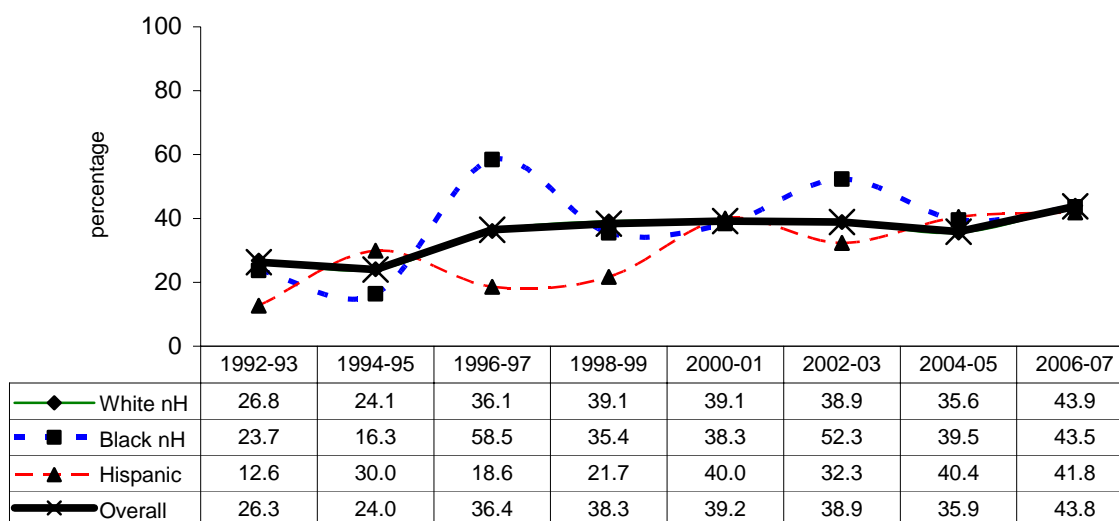
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 3.10: Flu Vaccine and Pneumonia Vaccine**

Influenza, or the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and can even lead to death. Every year in the United States, on average, between 5 and 20 percent of the population acquires the flu; more than 200,000 people are hospitalized from flu complications, and about 36,000 people die from the flu [19]. Adults 65 years or older, children younger than 2 years old, and individuals with chronic medical conditions are at increased risk for pneumococcal infection. In Massachusetts, flu and pneumonia were the fifth leading causes of death in 2005 among adults 65 and older [20].

All respondents were asked if they had received an influenza vaccine (flu shot) or nasal flu spray (flu mist) within the past 12 months. In addition, all respondents were asked if they had ever received a pneumonia vaccine. Presented here are the percentages of adults ages 50-64 years and ages 65 and older who received a flu vaccine or spray in the past year, and the percentage of adults, ages 65 and older, who reported that they had ever had a pneumonia vaccination.

**Figure 3.10.1: Percentage of adults age 50-64 who reported that they had received a flu vaccine in the past year, by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

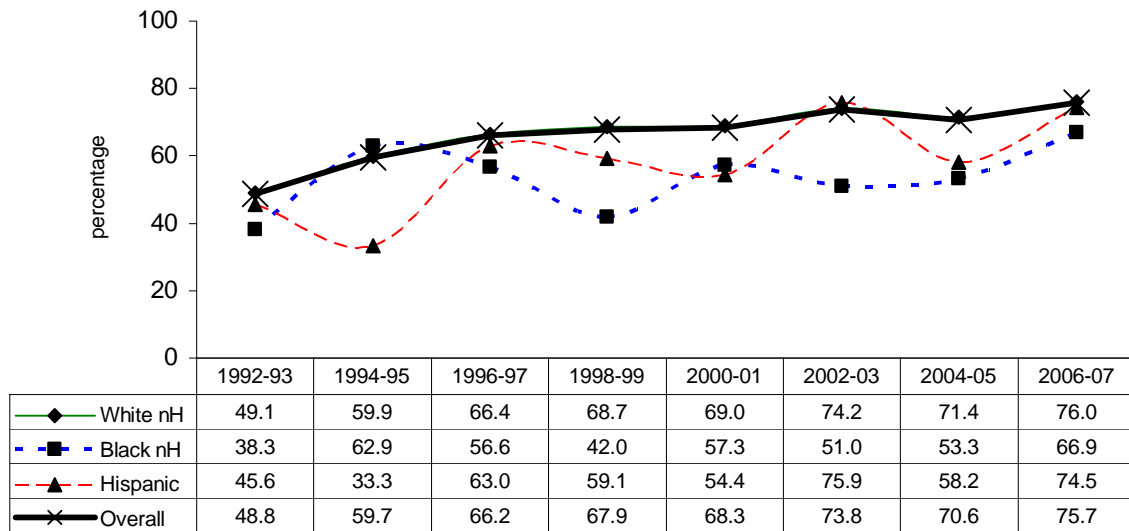
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	→	↔
Hispanic	↗	↔
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference”

**Figure 3.10.2: Percentage of adults age 65 and older who reported that they had received a flu vaccine in the past year, by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

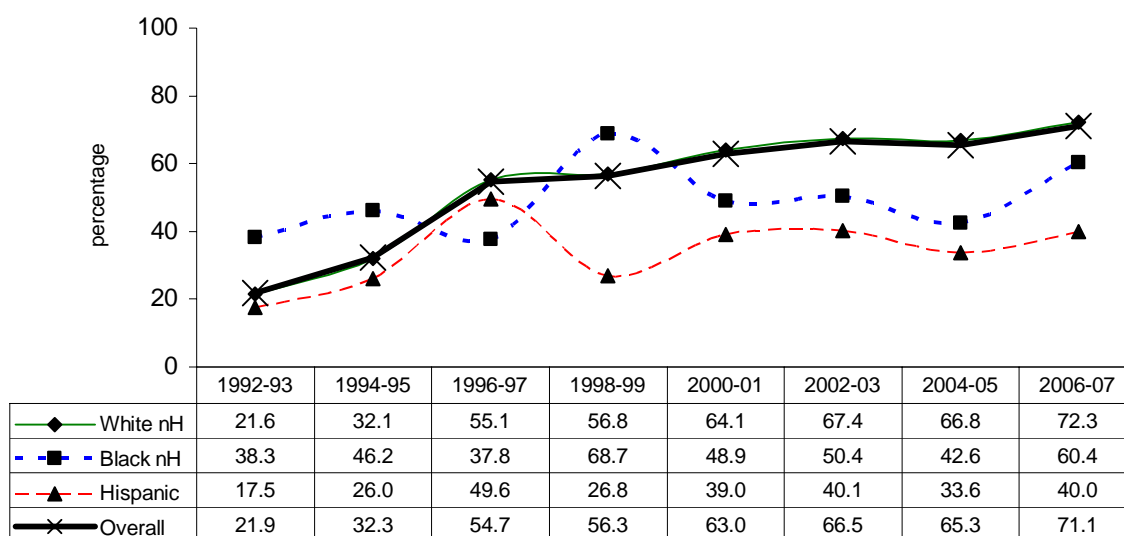
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	→	↔
Hispanic	↗	↔
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference”

**Figure 3.10.3: Percentage of adults age 65 and older who reported that they had ever received a pneumonia vaccine by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	→	↓
Hispanic	→	↓
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference”

**TABLE 3.10.1 – FLU VACCINE AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2007**

	AGES 50-64			AGES 65+		
	N	%	95% CI	N	%	95% CI
OVERALL	6331	45.8	44.0 - 47.6	6354	78.0	76.6 - 79.4
GENDER						
MALE	2305	41.8	38.8 - 44.7	2155	80.0	77.8 - 82.2
FEMALE	4026	49.6	47.5 - 51.8	4199	76.6	74.8 - 78.3
AGE GROUP						
50-64	6331	45.8	44.0 - 47.6			
65-74				3091	73.7	71.6 - 75.8
75 AND OLDER				3263	81.8	80.0 - 83.7
RACE-ETHNICITY*						
WHITE	5453	45.9	44.1 - 47.8	5778	78.4	77.0 - 79.8
BLACK	246	41.3	31.2 - 51.3	204	72.1	64.6 - 79.6
HISPANIC	411	45.9	37.1 - 54.7	223	75.6	66.1 - 85.2
ASIAN	75	55.8	40.3 - 71.2	†		
DISABILITY¶						
DISABILITY	429	55.5	48.3 - 62.6	545	82.4	78.4 - 86.4
NO DISABILITY	1087	48.7	44.5 - 52.9	981	77.8	74.4 - 81.3
EDUCATION						
< HIGH SCHOOL	510	40.1	32.4 - 47.8	906	73.1	68.6 - 77.6
HIGH SCHOOL	1479	43.7	40.0 - 47.4	2285	76.5	74.0 - 78.9
COLLEGE 1-3 YRS	1429	43.1	39.3 - 46.8	1376	78.2	75.4 - 81.1
COLLEGE 4+ YRS	2902	48.6	46.0 - 51.2	1767	81.1	78.8 - 83.4
HOUSEHOLD INCOME						
<\$25,000	1155	48.3	42.9 - 53.6	2182	76.2	73.5 - 78.9
\$25,000-34,999	456	49.8	42.9 - 56.8	761	77.8	73.9 - 81.7
\$35,000-49,999	732	41.5	36.4 - 46.5	761	77.4	73.4 - 81.4
\$50,000-74,999	1031	45.3	41.0 - 49.5	540	80.0	76.0 - 84.0
\$75,000+	2152	45.5	42.7 - 48.4	623	80.9	77.2 - 84.7
REGION						
I-WESTERN	905	47.7	43.3 - 52.1	912	77.2	73.5 - 80.9
II-CENTRAL	808	43.1	38.3 - 47.9	815	73.0	68.9 - 77.0
III-NORTH EAST	1474	47.7	43.2 - 52.2	1442	79.9	76.9 - 82.8
IV-METRO WEST	858	46.6	42.5 - 50.7	922	81.9	79.0 - 84.7
V-SOUTH EAST	1564	41.5	37.8 - 45.2	1636	75.9	72.9 - 78.9
VI-BOSTON	722	51.3	46.1 - 56.6	627	76.3	71.9 - 80.6

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

**TABLE 3.10.2 – PNEUMONIA VACCINE AMONG MASSACHUSETTS ADULTS, AGES 65 YEARS AND OLDER, 2007**

	EVER HAD PNEUMONIA VACCINE		
	N	%	95% CI
OVERALL	6083	71.2	69.6 - 72.8
GENDER			
MALE	2021	68.4	65.7 - 71.1
FEMALE	4062	73.1	71.2 - 74.9
AGE GROUP			
65–74	2945	63.7	61.3 - 66.0
75 AND OLDER	3138	77.8	75.7 - 79.8
RACE-ETHNICITY*			
WHITE	5542	73.0	71.4 - 74.6
BLACK	198	61.2	52.2 - 70.3
HISPANIC	203	37.2	26.5 - 48.0
ASIAN	†		
DISABILITY¶			
DISABILITY	525	78.1	73.4 - 82.9
NO DISABILITY	952	69.3	65.4 - 73.2
EDUCATION			
< HIGH SCHOOL	861	59.5	54.1 - 64.9
HIGH SCHOOL	2204	72.4	69.8 - 75.1
COLLEGE 1–3 YRS	1317	74.8	71.7 - 77.8
COLLEGE 4+ YRS	1682	72.0	69.2 - 74.7
HOUSEHOLD INCOME			
<\$25,000	2116	71.8	68.9 - 74.7
\$25,000–34,999	734	70.5	66.0 - 75.1
\$35,000–49,999	732	71.7	67.2 - 76.2
\$50,000–74,999	513	73.9	69.2 - 78.6
\$75,000+	590	67.6	63.0 - 72.2
REGION			
I–WESTERN	885	74.5	70.7 - 78.4
II–CENTRAL	779	70.8	66.5 - 75.0
III–NORTH EAST	1383	69.4	65.6 - 73.3
IV–METRO WEST	887	73.3	70.0 - 76.6
V–SOUTH EAST	1565	71.8	68.6 - 75.0
VI–BOSTON	584	59.8	54.6 - 65.0

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

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## SECTION 4: CHRONIC HEALTH CONDITIONS

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## **SECTION 4: CHRONIC HEALTH CONDITIONS**

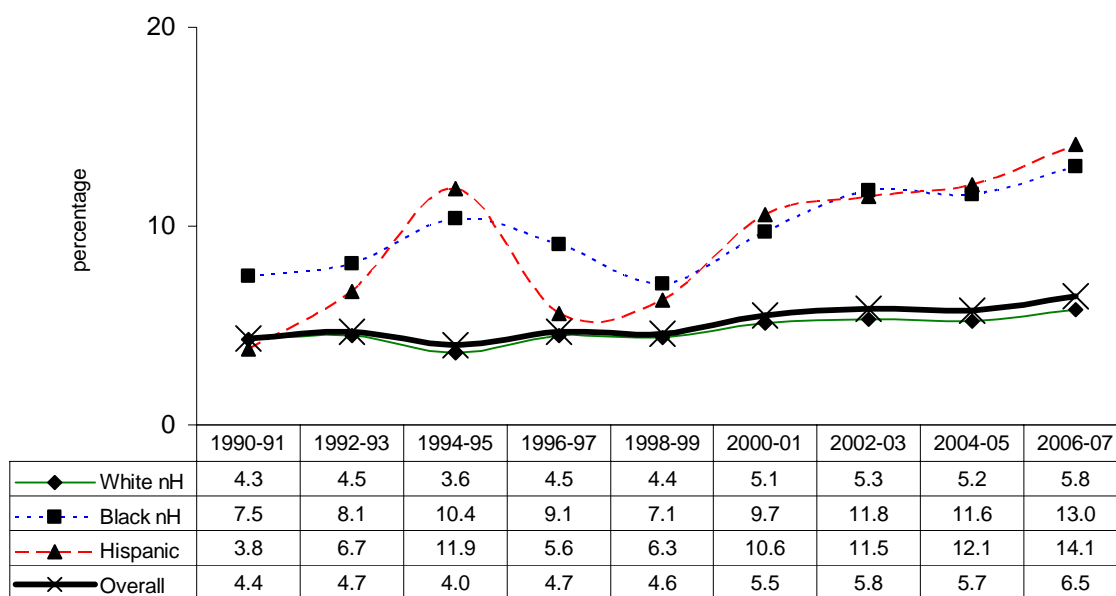
### **Section 4.1: Diabetes**

Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is a hormone which is used to convert sugar, starches, and other food into the energy needed for everyday life [20]. There are two types of diabetes: type 1 and type 2. In type 1 diabetes, the body is unable to produce insulin. In type 2 diabetes, the body is able to produce insulin, but is unable to utilize it efficiently.

Obesity, poor diet, and physical inactivity are risk factors associated with the increase in the prevalence of type 2 diabetes. In 2005, diabetes was the ninth leading cause of death in Massachusetts [21]. Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age [22]. In Massachusetts, 9.9 percent of the Commonwealth's medical care costs were attributed to diabetes [23].

All respondents were asked if a doctor had ever told them that they had diabetes or pre-diabetes. Women who reported that they had diabetes only during pregnancy (gestational diabetes) were categorized as not having diabetes. Presented here is the percentage of respondents who reported that a doctor had ever told them that they had diabetes and the percentage of respondents who reported that a doctor had ever told them that they have pre-diabetes. This report does not include the trend chart for the prevalence of pre-diabetes due to an insufficient number of years of data to use in analyzing the trend.

**Figure 4.1: Percentage of adults who report diabetes, by race/ethnicity, MA 1990-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1990-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↓
Hispanic	↗	↓
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 4.1 – DIABETES AMONG MASSACHUSETTS ADULTS, 2007**

	PRE-DIABETES				DIABETES			
	N	%	95% CI		N	%	95% CI	
OVERALL	6147	5.4	4.7	6.1	21489	7.4	7.0	- 7.9
GENDER								
MALE	2194	4.9	3.8	5.9	7603	7.5	6.7	- 8.2
FEMALE	3953	5.9	4.9	6.9	13886	7.4	6.8	- 8.0
AGE GROUP								
18–24	†				†			
25–34	†				2085	1.7	1.1	- 2.4
35–44	1116	2.8	1.5	4.0	3579	3.3	2.5	- 4.1
45–54	1261	5.4	3.9	7.0	4179	7.2	6.1	- 8.3
55–64	1131	9.5	7.2	11.9	4167	12.8	11.3	- 14.3
65–74	797	10.5	7.6	13.3	3094	17.9	16.0	- 19.8
75 AND OLDER	907	11.7	8.8	14.6	3283	16.3	14.5	- 18.0
RACE-ETHNICITY*								
WHITE	5188	5.3	4.5	6.0	17867	7.0	6.5	- 7.5
BLACK	†				1006	10.7	8.3	- 13.1
HISPANIC	†				1667	10.5	8.4	- 12.5
ASIAN	†				†			
DISABILITY <sup>¶</sup>								
DISABILITY	703	7.6	5.2	10.0	1399	13.8	11.4	- 16.2
NO DISABILITY	2037	3.6	2.6	4.6	3768	5.0	4.2	- 5.8
EDUCATION								
< HIGH SCHOOL	520	8.0	4.3	11.7	2070	16.4	14.1	- 18.8
HIGH SCHOOL	1660	7.0	5.3	8.7	5853	9.5	8.5	- 10.5
COLLEGE 1–3 YRS	1402	6.1	4.5	7.7	4869	7.7	6.7	- 8.8
COLLEGE 4+ YRS	2553	3.9	3.0	4.9	8642	4.9	4.3	- 5.4
HOUSEHOLD INCOME								
<\$25,000	1286	8.8	6.3	11.3	4872	14.9	13.4	- 16.4
\$25,000–34,999	511	7.6	4.6	10.6	1851	10.7	8.3	- 13.0
\$35,000–49,999	684	5.0	3.0	7.1	2422	9.1	7.6	- 10.6
\$50,000–74,999	849	5.5	3.4	7.5	2922	5.8	4.8	- 6.9
\$75,000+	1854	3.6	2.6	4.7	6005	3.8	3.2	- 4.4
REGION								
I–WESTERN	845	6.7	4.9	8.6	2947	8.9	7.6	- 10.2
II–CENTRAL	815	5.6	3.2	8.0	2873	7.0	5.8	- 8.1
III–NORTH EAST	1427	5.5	3.8	7.1	5100	7.2	6.2	- 8.2
IV–METRO WEST	844	3.8	2.5	5.0	2928	6.6	5.5	- 7.6
V–SOUTH EAST	1511	6.4	4.6	8.2	5165	7.7	6.6	- 8.7
VI–BOSTON	705	4.9	2.8	6.9	2476	8.0	6.8	- 9.3

\*White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

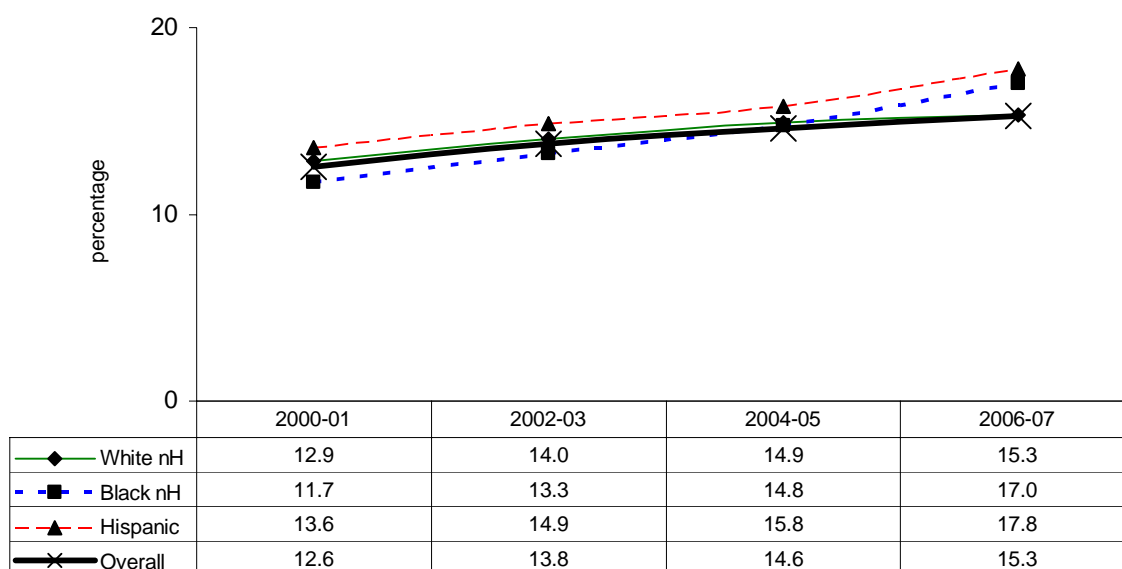
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## **Section 4.2: Asthma**

Asthma is a chronic inflammatory disorder that affects the lungs, causing repeated episodes of wheezing, breathlessness, coughing, and chest tightness [24]. Asthma attacks can be triggered by a variety of causes, such as second hand smoke, outdoor air pollution, allergens, irritants, and respiratory viral infections. These environmental irritants are also potential risk factors associated with the development of asthma [25].

All respondents were asked if a doctor, nurse, or other health care professional had ever told them that they had asthma. Those who reported ever having asthma were then asked if they currently have asthma. Reported here are the percentages of adult respondents who reported ever having asthma and those who reported currently having asthma. For data on childhood asthma, please see section 6.4 on page 111 of this report. This report does not include the trend chart for the prevalence of current asthma due to an insufficient number of years of data to use in analyzing the trend.

**Figure 4.2.1: Percentage of adults who report ever being diagnosed with asthma, 2000-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 2000-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↔
Hispanic	↗	↔
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 4.2 – ASTHMA AMONG MASSACHUSETTS ADULTS, 2007**

	EVER HAD ASTHMA			CURRENTLY HAVE ASTHMA		
	N	%	95% CI	N	%	95% CI
OVERALL	21449	15.4	14.6 - 16.2	21355	9.9	9.2 - 10.5
GENDER						
MALE	7587	13.0	11.7 - 14.2	7558	7.4	6.5 - 8.4
FEMALE	13862	17.6	16.6 - 18.6	13797	12.1	11.2 - 12.9
AGE GROUP						
18–24	750	23.7	19.0 - 28.4	747	10.7	7.5 - 14.0
25–34	2083	18.2	15.6 - 20.7	2067	11.4	9.3 - 13.6
35–44	3572	14.4	12.9 - 16.0	3557	9.6	8.3 - 10.9
45–54	4172	15.4	13.8 - 16.9	4150	10.1	8.8 - 11.3
55–64	4157	14.1	12.7 - 15.6	4144	9.8	8.6 - 11.0
65–74	3090	14.2	12.5 - 16.0	3078	9.9	8.4 - 11.4
75 AND OLDER	3277	10.0	8.6 - 11.4	3267	7.3	6.0 - 8.5
RACE-ETHNICITY*						
WHITE	17828	15.2	14.4 - 16.1	17746	9.8	9.1 - 10.5
BLACK	1006	16.3	12.3 - 20.2	1002	10.0	7.3 - 12.8
HISPANIC	1667	19.8	16.4 - 23.2	1665	12.0	9.5 - 14.5
ASIAN	392	8.8	5.2 - 12.4	391	6.0	2.8 - 9.1
DISABILITY†						
DISABILITY	1398	23.4	19.8 - 27.0	1391	17.7	14.4 - 21.0
NO DISABILITY	3760	13.2	11.6 - 14.9	3749	7.1	6.0 - 8.3
EDUCATION						
< HIGH SCHOOL	2065	18.0	15.0 - 21.0	2059	12.8	10.3 - 15.3
HIGH SCHOOL	5851	15.5	13.8 - 17.2	5834	10.3	8.9 - 11.6
COLLEGE 1–3 YRS	4863	16.9	15.1 - 18.6	4833	10.3	8.9 - 11.6
COLLEGE 4+ YRS	8615	14.2	13.2 - 15.3	8574	9.0	8.1 - 9.9
HOUSEHOLD INCOME						
<\$25,000	4864	18.7	16.7 - 20.6	4842	13.4	11.7 - 15.1
\$25,000–34,999	1850	14.4	11.6 - 17.2	1843	11.6	8.9 - 14.3
\$35,000–49,999	2422	16.7	14.2 - 19.3	2410	10.6	8.5 - 12.8
\$50,000–74,999	2913	14.8	12.7 - 16.9	2903	8.3	6.8 - 9.7
\$75,000+	5995	13.7	12.5 - 14.9	5967	8.3	7.3 - 9.2
REGION						
I–WESTERN	2944	18.1	15.8 - 20.4	2926	11.6	9.7 - 13.5
II–CENTRAL	2866	14.9	12.9 - 16.8	2854	10.5	8.8 - 12.2
III–NORTH EAST	5090	15.1	13.4 - 16.8	5078	9.5	8.2 - 10.8
IV–METRO WEST	2919	15.4	13.6 - 17.2	2906	9.7	8.3 - 11.0
V–SOUTH EAST	5153	15.0	13.3 - 16.7	5133	9.2	7.8 - 10.6
VI–BOSTON	2477	13.4	11.6 - 15.2	2458	8.6	7.1 - 10.0

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 4.3: Arthritis**

The term arthritis refers to many different conditions that affect the joints, and includes such conditions as rheumatoid arthritis, systematic lupus erythematosus (SLE), and gout [26]. The pain experienced due to arthritis can be so severe that it disrupts daily activities or makes them difficult to perform. A goal of Healthy People 2010 is to reduce the percentage of those who have limitations on their activities due to their arthritis to 33% or less.

All respondents were asked if a doctor or other health professional had ever told them they had arthritis. Respondents who indicated that they had been diagnosed with arthritis or who indicated that they had “symptoms of pain, aching, or stiffness in or around a joint” that had begun more than three months ago were then asked if they were limited in any way in any of their usual physical activities due to the arthritis or joint symptoms. Presented below is the percentage of respondents who indicated that they had been diagnosed with arthritis and, if they had been or if they had the symptoms described above for more than three months, the percentage of respondents who experienced limitations in their usual daily activities due to the arthritis or symptoms.

Note: The age range of those asked about arthritis in the MA BRFSS was broadened beginning in 2005. Therefore, estimates of arthritis published in this report are not comparable to estimates published in years prior to 2005. For this reason, we do not provide trend charts for the arthritis indicators summarized in this report.

**TABLE 4.3 – ARTHRITIS AMONG MASSACHUSETTS ADULTS, 2007**

	DOCTOR DIAGNOSED ARTHRITIS			LIMITATIONS DUE TO ARTHRITIS		
	N	%	95% CI	N	%	95% CI
OVERALL	21004	27.5	26.6 - 28.3	20973	9.5	9.0 - 10.0
GENDER						
MALE	7429	23.4	22.1 - 24.7	7419	7.5	6.8 - 8.3
FEMALE	13575	31.2	30.1 - 32.3	13554	11.3	10.6 - 12.0
AGE GROUP						
18–24	731	3.6	1.6 - 5.5	†		
25–34	2025	9.4	7.5 - 11.4	2025	3.5	2.3 - 4.7
35–44	3491	14.9	13.3 - 16.4	3491	4.3	3.5 - 5.1
45–54	4086	28.3	26.4 - 30.2	4085	9.8	8.6 - 11.0
55–64	4083	45.0	42.8 - 47.2	4063	16.7	15.1 - 18.4
65–74	3055	54.5	52.0 - 57.1	3055	17.8	16.0 - 19.7
75 AND OLDER	3213	59.2	56.9 - 61.6	3199	22.0	20.1 - 24.0
RACE-ETHNICITY*						
WHITE	17493	29.1	28.2 - 30.1	17467	9.8	9.3 - 10.4
BLACK	967	22.4	18.7 - 26.2	965	8.7	6.3 - 11.0
HISPANIC	1621	20.9	17.6 - 24.2	1620	9.7	7.6 - 11.7
ASIAN	381	9.2	5.2 - 13.3	†		
DISABILITY¶						
DISABILITY	1387	52.4	48.3 - 56.5	1382	30.2	26.7 - 33.8
NO DISABILITY	3755	21.0	19.3 - 22.6	3755	2.7	2.1 - 3.3
EDUCATION						
< HIGH SCHOOL	2008	36.8	32.9 - 40.6	2000	16.5	14.2 - 18.8
HIGH SCHOOL	5692	32.3	30.4 - 34.1	5678	11.1	10.0 - 12.2
COLLEGE 1–3 YRS	4760	29.7	27.9 - 31.5	4758	10.9	9.7 - 12.0
COLLEGE 4+ YRS	8494	22.6	21.4 - 23.8	8487	7.0	6.3 - 7.7
HOUSEHOLD INCOME						
<\$25,000	4749	40.3	37.9 - 42.7	4734	20.1	18.3 - 21.8
\$25,000–34,999	1807	34.2	30.9 - 37.5	1803	13.0	10.8 - 15.2
\$35,000–49,999	2376	31.0	28.4 - 33.7	2377	10.4	8.7 - 12.1
\$50,000–74,999	2864	24.9	22.7 - 27.1	2862	7.4	6.2 - 8.7
\$75,000+	5915	20.4	19.1 - 21.7	5912	5.0	4.3 - 5.7
REGION						
I–WESTERN	2876	32.6	30.2 - 34.9	2872	11.3	9.9 - 12.7
II–CENTRAL	2803	25.3	23.2 - 27.4	2800	8.6	7.3 - 9.8
III–NORTH EAST	4992	28.8	26.7 - 30.8	4980	10.3	9.1 - 11.6
IV–METRO WEST	2873	24.6	22.8 - 26.4	2869	8.0	6.9 - 9.0
V–SOUTH EAST	5041	29.7	27.8 - 31.7	5035	10.3	9.1 - 11.5
VI–BOSTON	2419	23.0	20.8 - 25.2	2417	8.7	7.3 - 10.1

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## **Section 4.4: Heart Disease and Stroke**

Heart disease includes a number of different heart conditions, the most common of which is coronary heart disease, a condition that can lead to a heart attack. A stroke occurs when blood to the brain is blocked or a blood vessel in the brain bursts, causing damage to the individual's brain. Heart disease and stroke are the principal causes of more than 910,000 cardiovascular disease deaths each year in the United States. They are also major causes of disability. In 2005, heart disease and stroke respectively, were the first and third leading causes of death in Massachusetts [20, 27].

All respondents ages 35 and older were asked about whether a doctor, nurse, or other health professional had ever told them that they had had a myocardial infarction ("MI," also called a "heart attack"), angina, or a stroke. Presented here are the percentages of adults 35 and older who reported being told that they had experienced a heart attack, angina, or a stroke.

Note: Estimates of cardiovascular disease were not reliable when stratified by race over the period of time covered in the figures in this report; therefore no trend charts for cardiovascular disease data are presented in this report.

**TABLE 4.4.1 – HEART DISEASE AMONG MASSACHUSETTS ADULTS,  
AGES 35 YEARS AND OLDER, 2007**

	MYOCARDIAL INFARCTION			ANGINA		
	N	%	95% CI	N	%	95% CI
OVERALL	18209	4.9	4.5 - 5.3	18148	5.1	4.7 - 5.6
GENDER						
MALE	6470	6.8	6.0 - 7.5	6455	6.6	5.8 - 7.4
FEMALE	11739	3.3	2.9 - 3.6	11693	3.8	3.4 - 4.3
AGE GROUP						
35–44	3573	0.6	0.3 - 0.9	3566	0.6	0.3 - 1.0
45–54	4165	2.1	1.4 - 2.7	4166	2.1	1.5 - 2.7
55–64	4142	5.8	4.8 - 6.9	4138	6.7	5.3 - 8.2
65–74	3077	11.2	9.7 - 12.8	3057	11.5	9.9 - 13.1
75 AND OLDER	3252	16.1	14.3 - 17.9	3221	16.3	14.5 - 18.1
RACE-ETHNICITY*						
WHITE	15621	4.9	4.5 - 5.3	15561	5.3	4.8 - 5.8
BLACK	768	4.7	2.6 - 6.8	771	2.6	1.3 - 3.8
HISPANIC	1159	5.4	3.6 - 7.2	1156	5.5	3.4 - 7.5
ASIAN	†			†		
DISABILITY¶						
DISABILITY	1260	11.4	8.9 - 13.9	1257	11.6	9.2 - 14.1
NO DISABILITY	3132	3.0	2.4 - 3.7	3129	3.7	2.8 - 4.6
EDUCATION						
< HIGH SCHOOL	1757	12.2	9.9 - 14.5	1745	11.3	8.2 - 14.4
HIGH SCHOOL	5005	6.6	5.7 - 7.5	4987	6.8	5.9 - 7.8
COLLEGE 1–3 YRS	4065	5.1	4.3 - 6.0	4044	5.7	4.7 - 6.6
COLLEGE 4+ YRS	7343	2.9	2.5 - 3.4	7334	3.2	2.7 - 3.7
HOUSEHOLD INCOME						
<\$25,000	4173	11.2	9.7 - 12.7	4150	11.2	9.4 - 13.0
\$25,000–34,999	1598	8.4	6.7 - 10.1	1590	7.5	5.9 - 9.2
\$35,000–49,999	2069	4.4	3.3 - 5.5	2066	4.9	3.8 - 6.0
\$50,000–74,999	2467	3.7	2.7 - 4.7	2465	4.6	3.4 - 5.8
\$75,000+	5082	2.0	1.5 - 2.5	5078	2.3	1.8 - 2.8
REGION						
I–WESTERN	2505	6.4	5.2 - 7.7	2503	5.6	4.4 - 6.7
II–CENTRAL	2413	4.8	3.9 - 5.8	2407	5.3	4.2 - 6.3
III–NORTH EAST	4328	4.4	3.6 - 5.1	4309	5.1	3.9 - 6.3
IV–METRO WEST	2563	4.1	3.3 - 4.9	2556	4.4	3.6 - 5.2
V–SOUTH EAST	4419	5.5	4.6 - 6.3	4399	6.0	5.0 - 7.0
VI–BOSTON	1981	4.5	3.1 - 6.0	1974	4.3	2.9 - 5.7

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

**TABLE 4.4.2 – STROKE AMONG MASSACHUSETTS ADULTS,  
AGES 35 YEARS AND OLDER, 2007**

	STROKE		
	N	%	95% CI
OVERALL	18267	2.4	2.2 - 2.7
GENDER			
MALE	6493	2.4	1.9 - 2.8
FEMALE	11774	2.5	2.1 - 2.9
AGE GROUP			
35–44	†		
45–54	4172	1.1	0.7 - 1.5
55–64	4159	2.0	1.5 - 2.6
65–74	3088	5.4	4.2 - 6.6
75 AND OLDER	3275	8.7	7.4 - 10.0
RACE-ETHNICITY*			
WHITE	15655	2.4	2.1 - 2.7
BLACK	777	3.0	1.6 - 4.4
HISPANIC	1168	2.3	1.0 - 3.7
ASIAN	†		
DISABILITY <sup>¶</sup>			
DISABILITY	1268	7.6	5.4 - 9.8
NO DISABILITY	3143	1.4	0.8 - 1.9
EDUCATION			
< HIGH SCHOOL	1775	6.1	4.5 - 7.7
HIGH SCHOOL	5023	3.7	2.9 - 4.4
COLLEGE 1–3 YRS	4077	2.1	1.6 - 2.7
COLLEGE 4+ YRS	7354	1.5	1.2 - 1.8
HOUSEHOLD INCOME			
<\$25,000	4198	6.4	5.2 - 7.6
\$25,000–34,999	1599	3.3	2.2 - 4.4
\$35,000–49,999	2072	2.1	1.3 - 2.9
\$50,000–74,999	2469	1.4	0.9 - 2.0
\$75,000+	5086	0.7	0.5 - 0.9
REGION			
I–WESTERN	2521	3.0	2.1 - 3.9
II–CENTRAL	2422	1.9	1.4 - 2.5
III–NORTH EAST	4339	2.6	2.0 - 3.1
IV–METRO WEST	2568	2.2	1.6 - 2.7
V–SOUTH EAST	4426	2.4	1.8 - 3.0
VI–BOSTON	1991	3.0	1.8 - 4.2

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

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## SECTION 5: CANCER SCREENING

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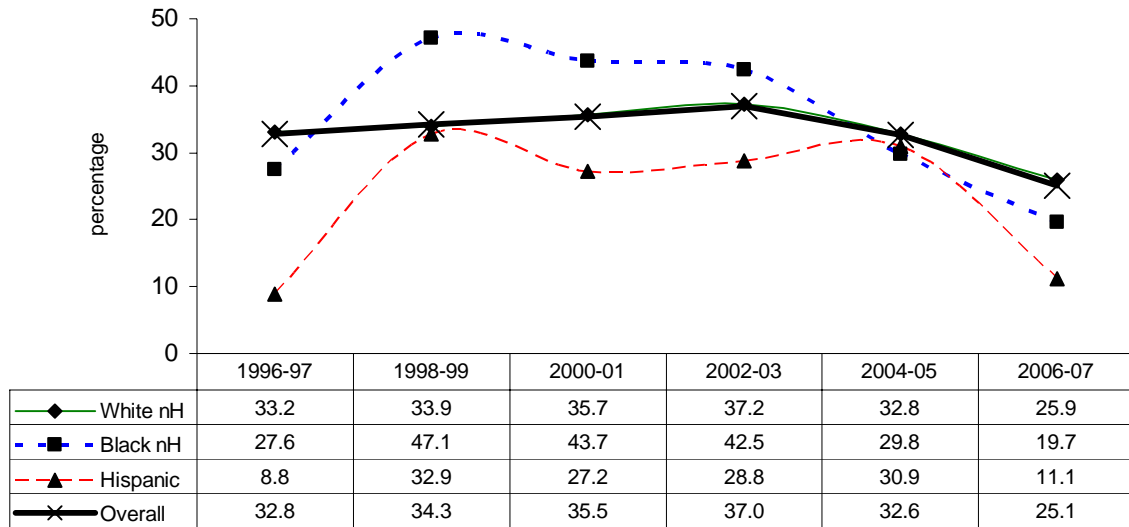
## **SECTION 5: CANCER SCREENING**

### **Section 5.1: Colorectal Cancer Screening**

Cancer of the colon or rectum is the second leading cause of cancer-related deaths in the United States and it is estimated that there will be 52,180 deaths due to colorectal cancer in 2007 [28, 29]. It is estimated that at least one-third of colorectal cancer deaths could be prevented if everyone 50 years and older were screened. Fecal occult blood tests, sigmoidoscopy, and colonoscopy are screening procedures that are performed to detect colorectal cancer in the early stages [30].

Respondents, ages 50 and older, were asked if they ever had had a blood stool test using a home test kit to determine if their stool contained blood and were also asked if they ever had had a sigmoidoscopy or colonoscopy, tests that examine the bowel for signs of cancer or other health problems. Presented here is the percentage of those respondents who reported that they had had a blood stool test using a home test kit in the past two years and the percentage of respondents who reported that they had had a sigmoidoscopy or colonoscopy in the past five years.

**Figure 5.1.1: Percentage of adults age 50 and over who reported that they had had a blood stool test in the past two years, by race/ethnicity, MA 1996-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

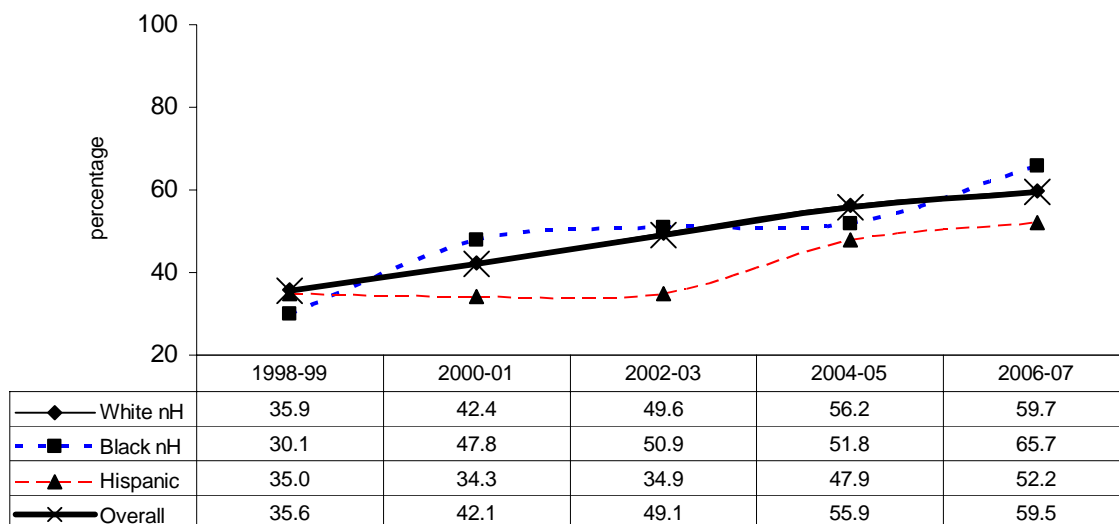
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1996-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↔
Hispanic	→	↓
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference”

**Figure 5.1.2: Percentage of adults age 50 and over who reported having a colonoscopy or sigmoidoscopy in the past 5 years by race/ethnicity, MA 1998-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1998-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↔
Hispanic	↗	↔
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*"up" arrow indicates "better," "down" arrow indicates "worse," and sideways arrows indicate "no statistically significant difference"

**TABLE 5.1 – COLORECTAL CANCER SCREENING AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2007**

	BLOOD STOOL TEST IN THE PAST TWO YEARS			SIGMOIDOSCOPY OR COLONOSCOPY IN PAST FIVE YEARS		
	N	%	95% CI	N	%	95% CI
OVERALL	3784	24.5	22.6 - 26.4	3806	64.3	62.1 - 66.5
GENDER						
MALE	1351	20.8	18.0 - 23.7	1354	69.4	65.9 - 72.8
FEMALE	2433	27.6	25.1 - 30.1	2452	60.1	57.3 - 62.9
AGE GROUP						
50-59	1317	18.0	15.2 - 20.9	1320	61.4	57.5 - 65.2
60-69	1080	28.3	24.7 - 31.9	1090	70.5	66.7 - 74.3
70-79	841	32.6	28.2 - 37.0	851	69.7	65.5 - 73.9
80 AND OLDER	546	27.1	22.0 - 32.1	545	52.6	46.9 - 58.3
RACE-ETHNICITY*						
WHITE	3382	25.7	23.7 - 27.8	3405	64.4	62.1 - 66.6
BLACK	132	20.6	12.1 - 29.1	131	73.5	61.8 - 85.3
HISPANIC	173	10.0	4.5 - 15.6	174	56.0	42.5 - 69.6
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	576	27.5	22.3 - 32.7	577	65.6	59.9 - 71.2
NO DISABILITY	1239	24.1	20.9 - 27.3	1234	65.6	61.9 - 69.3
EDUCATION						
< HIGH SCHOOL	396	23.9	16.8 - 31.0	392	55.2	47.2 - 63.3
HIGH SCHOOL	1127	25.5	21.9 - 29.1	1136	59.0	54.8 - 63.2
COLLEGE 1–3 YRS	812	26.2	22.2 - 30.2	816	65.7	61.1 - 70.3
COLLEGE 4+ YRS	1443	23.3	20.4 - 26.2	1455	68.3	64.9 - 71.6
HOUSEHOLD INCOME						
<\$25,000	988	28.5	24.1 - 32.9	988	58.1	53.2 - 63.0
\$25,000–34,999	368	24.0	17.8 - 30.1	373	58.7	51.1 - 66.3
\$35,000–49,999	438	28.3	22.8 - 33.7	439	63.7	57.5 - 69.8
\$50,000–74,999	498	24.1	19.3 - 28.9	501	66.1	60.6 - 71.6
\$75,000+	859	21.5	17.9 - 25.1	869	68.9	64.7 - 73.1
REGION						
I–WESTERN	522	27.3	22.1 - 32.5	536	65.8	60.5 - 71.2
II–CENTRAL	507	25.9	20.8 - 31.1	510	60.3	54.3 - 66.3
III–NORTH EAST	835	23.8	19.4 - 28.1	844	62.5	56.9 - 68.0
IV–METRO WEST	541	20.7	17.0 - 24.5	539	67.4	62.7 - 72.1
V–SOUTH EAST	972	27.6	23.3 - 31.9	970	62.6	58.0 - 67.3
VI–BOSTON	407	22.3	17.4 - 27.2	407	68.0	62.3 - 73.7

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

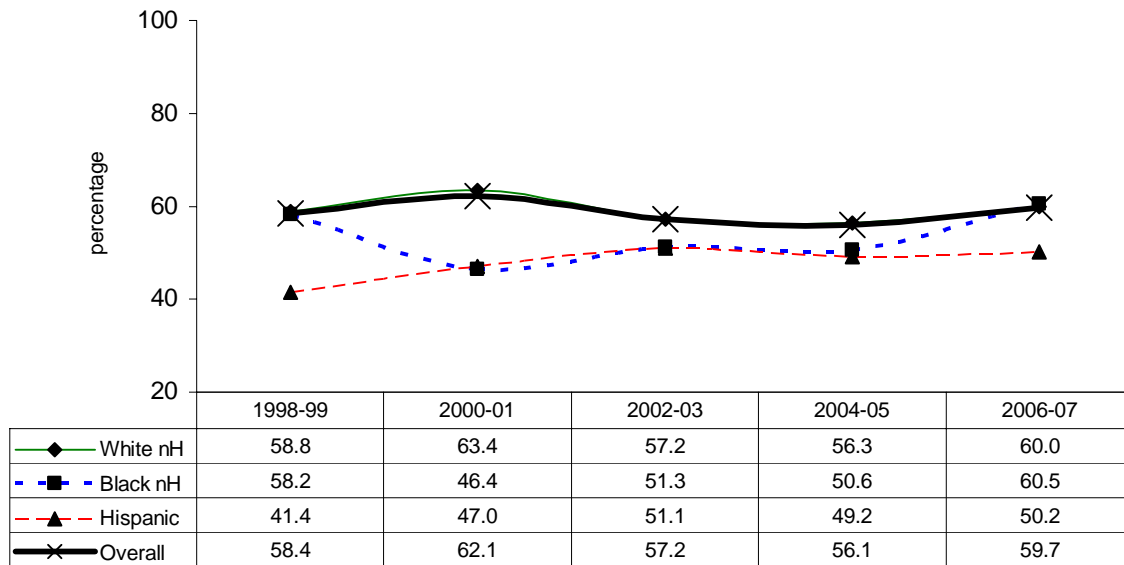
## **Section 5.2: Prostate Cancer Screening**

Prostate cancer is the leading diagnosed cancer among men in the United States, the second leading cause of cancer deaths among men in the United States, and the sixth leading cause of death for men overall [31]. More than 70% of all diagnosed prostate cancers are found in men aged 65 and older [31, 32].

Men aged 50 and older were asked if they ever had had a prostate-specific antigen test (PSA), a blood test used to indicate an increased risk of prostate cancer. The percentages of those who reported that they had had a PSA test in the past year are presented.

Men age 50 and older also were asked if they had had a digital rectal exam (DRE) in the past year. A DRE is an exam in which a doctor, nurse, or other health professional places a gloved finger into the rectum to feel the size, shape, and hardness of the prostate gland. This report does not include the trend chart for the prevalence of DRE testing in the past year due to a lack of continuous years of data to use in analyzing the trend.

**Figure 5.2: Percentage of adults age 50 and over who reported having a PSA test in the past year by race/ethnicity, MA 1998-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1998-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	N/A (insufficient data)
Hispanic	→	N/A (insufficient data)
Overall	→	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference”

**TABLE 5.2 – PROSTATE CANCER SCREENING AMONG MASSACHUSETTS MEN  
AGES 50 AND OLDER, 2007**

	PSA IN THE PAST YEAR			DRE IN THE PAST YEAR		
	N	%	95% CI	N	%	95% CI
OVERALL	1266	62.9	59.0 - 66.7	1351	66.2	62.6 - 69.8
AGE GROUP						
50-59	427	54.6	47.6 - 61.6	469	61.7	55.2 - 68.2
60-69	372	72.0	66.1 - 77.8	398	73.4	67.9 - 79.0
70-79	299	69.4	62.4 - 76.5	312	68.1	61.1 - 75.0
80 AND OLDER	168	59.7	49.7 - 69.6	172	62.3	52.5 - 72.1
RACE-ETHNICITY*						
WHITE	1139	63.8	60.0 - 67.6	1213	67.2	63.6 - 70.7
BLACK	†			†		
HISPANIC	†			†		
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	197	63.3	54.4 - 72.3	208	58.2	49.3 - 67.2
NO DISABILITY	412	64.4	58.0 - 70.7	435	70.0	63.9 - 76.2
EDUCATION						
< HIGH SCHOOL	119	42.0	27.7 - 56.2	128	67.8	55.3 - 80.3
HIGH SCHOOL	323	61.5	54.2 - 68.9	349	64.6	57.6 - 71.6
COLLEGE 1–3 YRS	239	57.8	48.6 - 67.0	256	63.7	54.9 - 72.5
COLLEGE 4+ YRS	583	68.2	63.1 - 73.4	616	67.6	62.4 - 72.8
HOUSEHOLD INCOME						
<\$25,000	278	51.5	42.0 - 61.1	294	54.2	44.9 - 63.5
\$25,000–34,999	122	43.5	31.6 - 55.4	131	61.3	49.5 - 73.2
\$35,000–49,999	155	68.5	59.0 - 78.0	170	60.9	51.0 - 70.9
\$50,000–74,999	179	58.1	47.8 - 68.4	190	72.6	64.7 - 80.6
\$75,000+	389	69.7	63.7 - 75.7	407	70.8	65.0 - 76.7
REGION						
I–WESTERN	166	63.0	54.0 - 72.1	177	63.7	54.9 - 72.6
II–CENTRAL	179	65.0	55.1 - 74.9	199	70.0	60.9 - 79.2
III–NORTH EAST	276	48.3	38.9 - 57.7	291	57.5	47.9 - 67.0
IV–METRO WEST	192	65.2	56.9 - 73.6	199	69.6	61.7 - 77.5
V–SOUTH EAST	326	72.9	66.0 - 79.7	340	70.8	63.8 - 77.8
VI–BOSTON	127	57.6	46.4 - 68.7	145	61.2	50.8 - 71.6

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

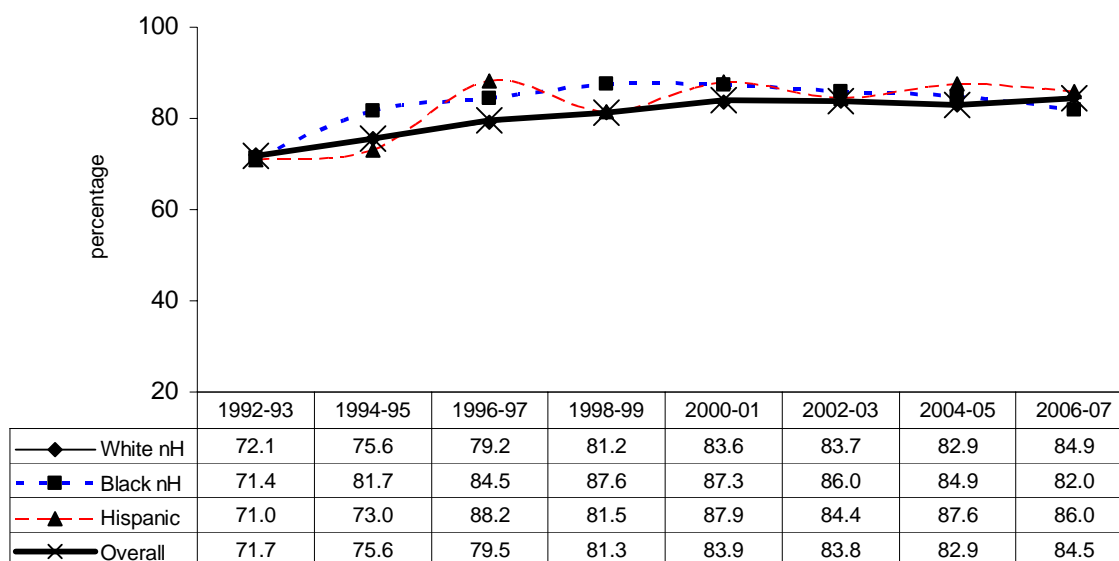
¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

### **Section 5.3: Breast Cancer Screening**

Cancer of the breast is the most commonly diagnosed cancer among women in the United States. Early detection of breast cancer can occur through the use of screening tools such as mammography and clinical breast exams. A mammogram, an X-ray of the breast, is the one of the methods to detect breast cancer early and before it is big enough to feel or to cause symptoms.

All female respondents were asked about breast cancer screening. Those women who reported that they ever had had a mammogram were asked how long it had been since their last mammogram. One Healthy People 2010 objective is to have 70% of women age 40 and older reporting that they have had a mammogram in the past two years; the percentage of women age 40 and older in Massachusetts who reported that they had had a mammogram in the past two years is presented in this report.

**Figure 5.3: Percentage of women age 40 and older who reported having a mammogram in the past two years by race/ethnicity, MA 1992-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1992-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	→	↔
Hispanic	↗	↔
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference”

**TABLE 5.3 – BREAST CANCER SCREENING AMONG MASSACHUSETTS WOMEN,  
AGES 40 AND OLDER, 2007**

	MAMMOGRAM IN PAST TWO YEARS, AGES 40 AND OLDER		
	N	%	95% CI
OVERALL	3194	83.5	81.6 - 85.5
AGE GROUP			
40–49	715	78.3	74.0 - 82.7
50–59	859	89.7	86.9 - 92.5
60–69	698	88.7	84.7 - 92.8
70–79	546	87.9	84.2 - 91.6
80 AND OLDER	376	68.7	62.3 - 75.2
RACE-ETHNICITY*			
WHITE	2784	84.1	82.1 - 86.1
BLACK	122	84.1	74.9 - 93.2
HISPANIC	206	80.3	69.4 - 91.2
ASIAN	†		
DISABILITY¶			
DISABILITY	455	80.8	75.5 - 86.2
NO DISABILITY	1055	85.7	82.6 - 88.9
EDUCATION			
< HIGH SCHOOL	331	76.1	68.4 - 83.9
HIGH SCHOOL	939	80.1	75.8 - 84.4
COLLEGE 1–3 YRS	739	84.5	81.0 - 88.1
COLLEGE 4+ YRS	1181	86.0	83.0 - 88.9
HOUSEHOLD INCOME			
<\$25,000	833	77.1	72.3 - 81.9
\$25,000–34,999	285	82.2	76.2 - 88.3
\$35,000–49,999	353	75.2	67.4 - 83.0
\$50,000–74,999	422	88.6	84.2 - 92.9
\$75,000+	745	86.9	83.5 - 90.3
REGION			
I–WESTERN	458	80.7	75.4 - 86.1
II–CENTRAL	406	87.2	83.0 - 91.5
III–NORTH EAST	729	84.2	79.6 - 88.8
IV–METRO WEST	458	83.2	78.6 - 87.9
V–SOUTH EAST	802	84.8	81.1 - 88.5
VI–BOSTON	341	78.2	71.5 - 85.0

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

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## Section 6: Other Topics

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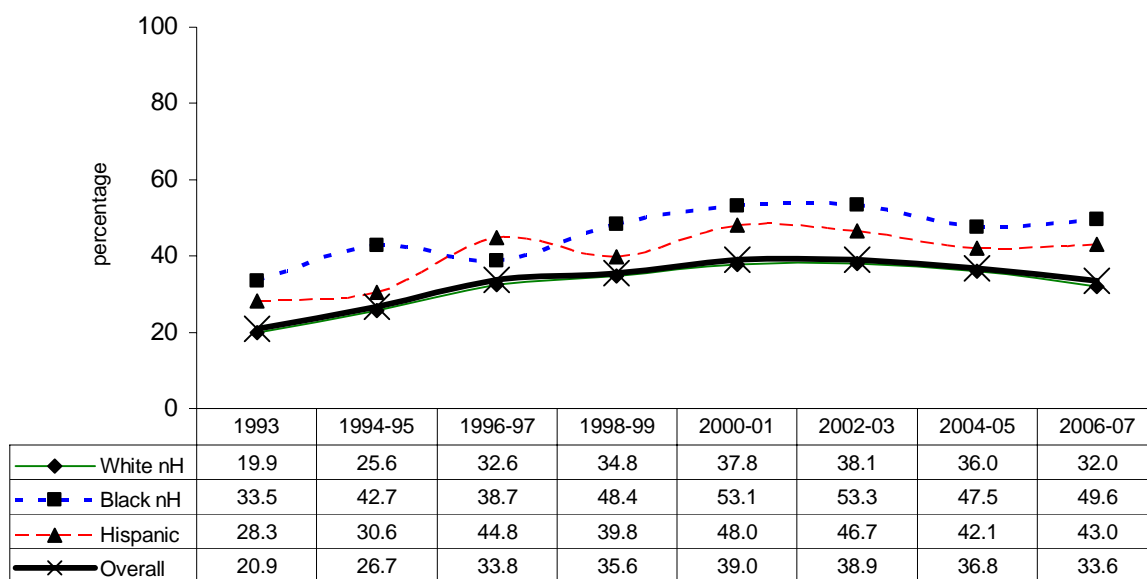
## **SECTION 6: OTHER TOPICS**

### **Section 6.1: HIV Testing**

In Massachusetts, the number of people living with HIV/AIDS increases each year due to the fact that 1) New HIV infection diagnoses exceed the number of deaths among people reported with HIV/AIDS and 2) There are more survivors due to improved treatment options over time. One-fourth of people infected with HIV do not know they have it. Early awareness of an HIV infection through HIV testing can prevent further spread of the disease [33].

All respondents ages 18-64 were asked if they had ever been tested for HIV. Respondents were told not to include times that HIV testing had been done as part of a blood donation. Respondents who reported that they had ever been tested for HIV were asked the date of their most recent HIV test. Presented here are the percentage of respondents who report ever having been tested for HIV and the percentage of those who had been tested in the past year. The first year that this question was included on the Massachusetts BRFSS was 1993; thus 1993 is presented as the first year of the trend analysis.

**Figure 6.1.1: Percentage of adults age 18-64 who reported that they had ever been tested for HIV, by race/ethnicity, MA 1993-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

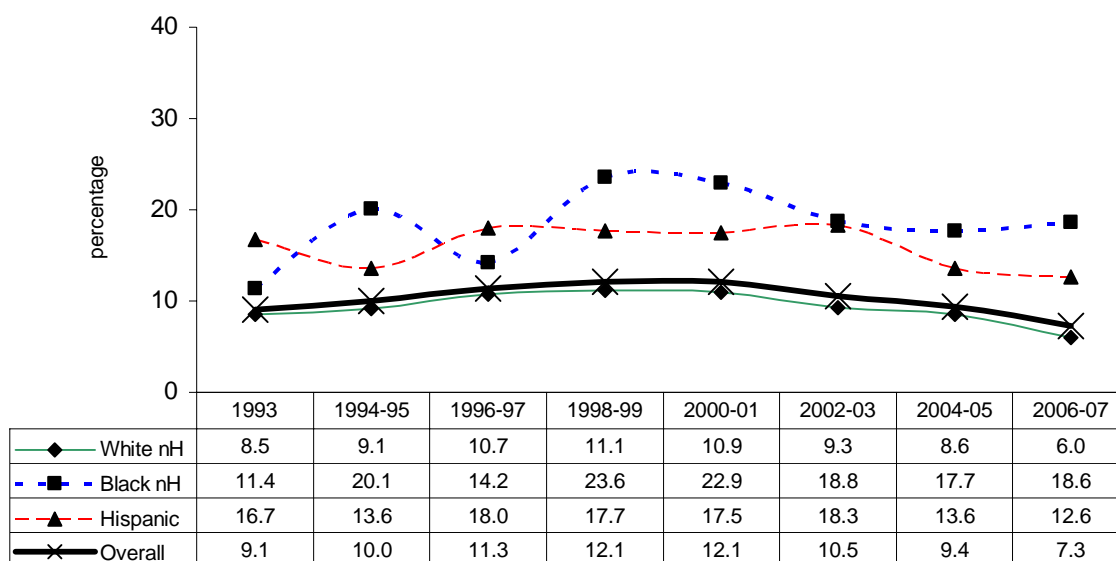
Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1993-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	↗	--
Black, non-Hispanic	↗	↑
Hispanic	→	↑
Overall	↗	↔

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**Figure 6.1.2 Percentage of adults age 18-64 who reported that they had been tested for HIV in the past year, by race/ethnicity, MA 1993-2007**



Data source: MA BRFSS

All percentages are age-adjusted to standard population (U.S. 2000)

Asian respondents were not included in trend analysis due to insufficient sample size.

Race	Trend from 1993-2007*	Compared to White (better, worse, or same); 2007 data**
White, non-Hispanic	→	--
Black, non-Hispanic	→	↑
Hispanic	→	↑
Overall	→	↑

\* arrows indicate statistically significant increase, decrease or no trend

\*\*“up” arrow indicates “better,” “down” arrow indicates “worse,” and sideways arrows indicate “no statistically significant difference” based on age-adjusted figures from 2007.

**TABLE 6.1 – HIV TESTING AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2007**

	EVER TESTED FOR HIV			TESTED FOR HIV IN PAST YEAR		
	N	%	95% CI	N	%	95% CI
OVERALL	13801	43.6	42.3 - 44.9	13022	8.7	7.9 - 9.4
GENDER						
MALE	4981	42.2	40.2 - 44.3	4695	9.4	8.1 - 10.6
FEMALE	8820	44.9	43.4 - 46.4	8327	8.0	7.2 - 8.9
AGE GROUP						
18-24	702	33.0	28.1 - 37.9	665	16.7	12.9 - 20.5
25-34	1931	59.8	56.4 - 63.1	1809	13.9	11.8 - 16.1
35-44	3337	55.9	53.6 - 58.2	3128	8.9	7.5 - 10.3
45-54	3920	35.0	32.9 - 37.1	3696	4.9	4.0 - 5.7
55-64	3911	20.4	18.6 - 22.3	3724	3.6	2.5 - 4.6
RACE-ETHNICITY*						
WHITE	11097	41.0	39.6 - 42.3	10578	6.9	6.2 - 7.6
BLACK	713	61.6	55.5 - 67.8	644	22.1	17.1 - 27.1
HISPANIC	1301	56.7	51.6 - 61.8	1165	15.4	12.1 - 18.6
ASIAN	332	36.8	29.8 - 43.8	311	8.1	3.4 - 12.8
DISABILITY†						
DISABILITY	823	47.8	42.4 - 53.2	765	11.2	7.7 - 14.7
NO DISABILITY	2685	44.4	41.6 - 47.1	2554	9.9	8.0 - 11.7
EDUCATION						
< HIGH SCHOOL	1023	44.7	39.0 - 50.5	937	15.5	11.1 - 20.0
HIGH SCHOOL	3193	40.4	37.7 - 43.1	2996	9.4	7.9 - 10.9
COLLEGE 1-3 YRS	3195	42.7	40.0 - 45.3	3028	9.2	7.5 - 11.0
COLLEGE 4+ YRS	6371	45.3	43.5 - 47.0	6045	7.4	6.4 - 8.4
HOUSEHOLD INCOME						
<\$25,000	2443	53.0	49.4 - 56.6	2246	16.1	13.5 - 18.6
\$25,000-34,999	1005	47.4	42.4 - 52.5	941	13.8	9.7 - 17.9
\$35,000-49,999	1538	41.3	37.5 - 45.2	1459	8.3	6.1 - 10.4
\$50,000-74,999	2225	40.9	37.7 - 44.0	2126	6.7	5.1 - 8.3
\$75,000+	5037	43.6	41.7 - 45.5	4824	6.6	5.6 - 7.7
REGION						
I-WESTERN	1868	40.8	37.7 - 44.0	1737	8.3	6.6 - 10.0
II-CENTRAL	1880	43.3	40.1 - 46.5	1773	8.5	6.7 - 10.4
III-NORTH EAST	3309	43.7	40.8 - 46.6	3129	7.6	6.0 - 9.2
IV-METRO WEST	1817	43.9	41.0 - 46.8	1733	6.8	5.2 - 8.4
V-SOUTH EAST	3234	41.3	38.5 - 44.1	3078	8.8	7.0 - 10.6
VI-BOSTON	1693	52.0	48.2 - 55.7	1572	15.9	13.0 - 18.7

\* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

## **Section 6.2: Sexual Violence**

Sexual violence results in harmful and lasting consequences for victims, families, and communities. In addition to the potential for injury and the psychological consequences of being a victim of sexual violence, many victims experience physiological problems. Physiological problems include chronic headaches, back pain, fatigue, sleep disturbances, recurrent nausea, decreased appetite, menstrual pain, and sexual dysfunction [34]. Psychological problems include post traumatic stress disorder, suicidal behavior, anxiety, eating disorders, and substance abuse [35, 36].

Respondents were asked if they had experienced sexual violence at any time in their lifetimes. Sexual violence was defined as having the sexual parts of the body touched without consent or attempted or completed sex without consent. Presented here are the percentages of men and women who reported that they had experienced sexual violence at some time in their lifetimes. This report does not include any trend charts for the prevalence of sexual violence due to an insufficient number of years of data to use in analyzing trends.

TABLE 6.2 – SEXUAL VIOLENCE** AMONG MASSACHUSETTS ADULTS, 2007							
	SEXUAL VIOLENCE, WOMEN			SEXUAL VIOLENCE, MEN			
	N	%	95% CI	N	%	95% CI	
OVERALL	2448	13.5	11.6 - 15.4	1407	4.9	3.1 - 6.8	
AGE GROUP							
18–24	85	16.8	7.3 - 26.2	†			
25–34	246	19.9	13.2 - 26.6	†			
35–44	402	13.5	9.5 - 17.6	†			
45–54	481	16.2	12.0 - 20.4	†			
55–64	496	11.8	8.5 - 15.1	†			
65–74	359	6.2	3.2 - 9.2	†			
75 AND OLDER	†			†			
RACE-ETHNICITY*							
WHITE	2076	14.3	12.2 - 16.4	1219	4.8	2.8 - 6.9	
BLACK	†			†			
HISPANIC	†			†			
ASIAN	†			†			
DISABILITY <sup>¶</sup>							
DISABILITY	303	22.7	15.2 - 30.2	†			
NO DISABILITY	831	10.5	7.7 - 13.4	†			
EDUCATION							
< HIGH SCHOOL	224	12.5	5.2 - 19.8	†			
HIGH SCHOOL	668	10.0	6.1 - 13.9	†			
COLLEGE 1–3 YRS	575	15.1	11.2 - 19.1	†			
COLLEGE 4+ YRS	976	14.6	11.8 - 17.4	650	3.1	1.4 - 4.8	
HOUSEHOLD INCOME							
<\$25,000	611	14.3	10.4 - 18.3	†			
\$25,000–34,999	224	13.7	6.7 - 20.7	†			
\$35,000–49,999	268	20.4	13.4 - 27.4	†			
\$50,000–74,999	328	16.6	11.3 - 22.0	†			
\$75,000+	633	11.6	8.5 - 14.8	†			
REGION							
I–WESTERN	356	14.2	9.0 - 19.4	†			
II–CENTRAL	325	15.1	9.7 - 20.4	†			
III–NORTH EAST	570	13.6	9.3 - 18.0	†			
IV–METRO WEST	325	10.1	6.4 - 13.8	†			
V–SOUTH EAST	593	15.2	10.7 - 19.7	†			
VI–BOSTON	279	13.7	8.9 - 18.4	†			
* White, Black, and Asian race categories refer to non-Hispanic † Insufficient data ¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind. ** In 2005 the sexual violence questions were changed. As such, percentages are not comparable to year prior to 2005.							

### **Section 6.3: Suicide and Suicide Survivors**

Suicide and suicidal thoughts are a serious public health problem, the pain of which is often left hidden behind social stigma and exacerbated by delayed recognition and treatment. Suicides, in fact, outnumber homicides by over two to one. Suicide affects individuals across the lifespan, although 60% of the suicides in 2006 were among individuals 35-59 years of age. In the wake of suicide, individuals close to those who have died can experience significant emotional trauma and isolation. The social stigma surrounding suicide can result in social withdrawal by survivors and the avoidance of survivors by others in the survivor's usual support network.

In 2006, 437 Massachusetts residents died by suicide [37]. Age adjusted rates of suicide are higher among MA men than women (9.6 vs. 3.5 per 100,000, respectively), although hospitalization rates for nonfatal self-inflicted injuries (which includes suicide attempts) are higher among women compared with men (78.8 vs. 60.8 per 100,000, respectively) [37, 38]. Risk factors for suicide include depression, previous suicide attempts, alcohol or drug abuse, and feeling alone [39]. In Massachusetts, suicide rates in men are highest among the middle age group and those over the age of 85 years; rates in women are highest in middle age [37].

In order to understand the prevalence of this problem, beyond those who complete suicide or require acute care hospital management, the 2007 BRFSS questionnaire included questions on suicidal thoughts and behaviors. Respondents were asked if they had seriously contemplated attempting suicide in the last year, whether they had attempted suicide in the past year, and whether they had spoken to anyone about those thoughts or attempts. Respondents were also asked whether anyone close to them had died by suicide, whether the loss caused the respondent to want to seek help, from whom the respondent received the most assistance if he or she did seek help, and how helpful the person was. Presented below are the percentages of respondents who indicated that they had seriously considered making a suicide attempt, the percentage of respondents who spoke to someone after considering or attempting suicide, the percentage of respondents who experienced a death of someone close to them from suicide, and the percentage of respondents who wanted to seek help after the death. This report does not include any trend charts for suicidal ideation, residents impacted by suicide, or related help-seeking behavior due to an insufficient number of years of data to use in analyzing trends.

<b>TABLE 6.3.1: SUICIDE AND SUICIDE IDEATION AMONG MASSACHUSETTS ADULTS, 2007</b>						
	CONSIDERED SUICIDE IN PAST 12 MONTHS			SPOKE TO SOMEONE ABOUT CONSIDERING OR ATTEMPTING SUICIDE		
OVERALL	3238	2.4	1.6 - 3.1	86	81.6	68.5 - 94.7
GENDER						
MALE	1220	2.5	1.2 - 3.8	31	†	-
FEMALE	2018	2.3	1.4 - 3.1	55	85.5	75.4 - 95.7
*White, Black, and Asian race categories refer to non-Hispanic † Insufficient data ¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.						

<b>TABLE 6.3.2: PREVALENCE OF RESIDENTS IMPACTED BY SUICIDE AMONG MASSACHUSETTS ADULTS, 2007</b>						
	SOMEONE CLOSE DIED BY SUICIDE			LOSS CAUSED PERSON TO WANT TO SEEK HELP		
	N	%	95% CI			
OVERALL	3233	16.7	14.7 - 18.7	508	17.0	12.4 - 21.7
GENDER						
MALE	1218	16.8	13.5 - 20.1	180	13.1	6.4 - 19.8
FEMALE	2015	16.6	14.2 - 19.0	328	20.8	14.5 - 27.2
*White, Black, and Asian race categories refer to non-Hispanic † Insufficient data ¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.						

## Section 6.4: Childhood Asthma

Asthma is the most common chronic disease among children under age 18 in the United States [40]. Low-income and minority children experience a disproportionate share of the asthma burden in Massachusetts. Asthma cannot be cured, but the symptoms can be controlled, and children with asthma can lead productive, active lives. Asthma control can be achieved through proper use of medication and avoidance of environmental asthma triggers, such as secondhand smoke, air pollution, mold, dust, and pet dander.

All BRFSS childhood data are collected via an adult proxy, who responds to questions about a randomly selected child who lives in the same household. Adult BRFSS respondents are asked how many children under age 18 live in their household; of all respondents reporting one or more children under age 18 living in the household, one child is selected using a computer-generated random selection process. The adult proxy is then asked various questions about the randomly selected child. The adult proxy is not necessarily the parent or legal guardian of the child. Of the adult proxies reporting childhood data in 2007, 89.5% were a parent or legal guardian, 5.4% were grandparents, and the remaining 5.1% were an adult sibling, other adult relative, or non-related adult living in the child's household.

To obtain lifetime asthma prevalence estimates for children, the adult proxy was asked if a doctor, nurse, or other health care professional had ever said that the randomly selected child had asthma. Reported here are the percentages of children who have ever been diagnosed by a doctor, nurse, or other health care professional as having asthma.

To obtain current asthma prevalence estimates for children, those adult proxies reporting that the randomly selected child had ever received an asthma diagnosis were then asked if the randomly selected child still has asthma. Reported here are the percentages of all Massachusetts children who currently have asthma.

Presented in Table 6.4.1 is the percentage of children with lifetime asthma and current asthma by select demographic characteristics. Race and ethnicity categories presented here differ from those presented in the main body of the report. Data are presented by race and Hispanic ethnicity separately in order to obtain sample sizes large enough to do a gross comparison of traditionally underserved groups to the white and non-Hispanic majority populations.

Presented in Table 6.4.2 is the percentage of children with lifetime asthma and current asthma by selected characteristics of the adult proxy. A child's genetic makeup and household environment can determine the development of asthma. To understand how asthma impacts households, childhood asthma prevalence was examined by household income, educational attainment of the adult proxy, adult smoking status and adult asthma status. For smoking status, current smokers are those who have smoked at least 100 cigarettes in their lifetime and who currently smoke either some days or everyday; former smokers are those who smoked at least 100 cigarettes in their lifetime but who do not currently smoke; and never smokers are those who reported having smoked fewer than 100 cigarettes during their lifetime. For the definition of lifetime and current asthma among adults, refer to the adult asthma section on pg. 83 of the main report.

### CHILD CHARACTERISTICS (Table 6.4.1)

- In Massachusetts, 14.8% of children were reported to ever have had asthma and 10.5% were reported to have current asthma.
- Lifetime asthma prevalence among children:
  - Male children (18%) tended to have a higher lifetime prevalence than female children (12%). This is in stark contrast to adult asthma prevalence, where adult males (13%) were less likely to report ever having had asthma than adult females (18%).

- Childhood lifetime asthma prevalence increased by age group. Children ages 0-4 (6%) were less likely to have lifetime asthma reported for them than children in any other age group.
- Non-White (17%) and Hispanic (20%) children tended to have higher reported lifetime asthma prevalence than White (14%) and non-Hispanic (14%) children, respectively.
- Current asthma prevalence among children:
  - Male children (13%) tended to have a higher lifetime prevalence than female children (8%). This is in stark contrast to adult asthma prevalence, where adult males (7%) were less likely to report ever having asthma than adult females (12%).
  - Childhood lifetime asthma prevalence tended to increase by age group.
  - Non-White (11%) and Hispanic (15%) children tended to have higher reported lifetime asthma than White (10%) and non-Hispanic (10%) children, respectively.

#### ADULT PROXY CHARACTERISTICS (Table 6.4.2)

- In Massachusetts, 15% of children were reported to ever have had asthma and 11% were reported to have current asthma.
- Lifetime asthma prevalence among children:
  - Adult proxies reporting household incomes less than \$75,000 (22%) were more likely to report children in the household with lifetime asthma than proxies reporting household incomes of \$75,000 or more (10%).
  - Childhood lifetime asthma prevalence tended to decrease with higher educational attainment of the adult proxy.
  - Childhood lifetime asthma prevalence tended to decrease with decreased tobacco use of the adult proxy.
  - Adult proxies reporting lifetime asthma (25%) and current asthma (30%) were more likely than the overall adult proxy population (15%) to report children in the household with lifetime asthma.
- Current asthma prevalence among children:
  - Adult proxies reporting household incomes less than \$75,000 (16%) were more likely to report children in the household with current asthma than proxies reporting household incomes of \$75,000 or more (7%).
  - Childhood current asthma prevalence tended to decrease with higher educational attainment of the adult proxy.
  - Childhood current asthma prevalence tended to decrease with decreased tobacco use of the adult proxy.
  - Adult proxies reporting lifetime asthma (21%) and current asthma (26%) were more likely than the overall adult proxy population (11%) to report children in the household with current asthma.

**TABLE 6.4.1-- PREVALENCE OF LIFETIME AND CURRENT ASTHMA AMONG  
MASSACHUSETTS CHILDREN (AGE 0-17) BY GENDER, AGE, RACE, AND ETHNICITY,  
2007**

	EVER HAD ASTHMA			CURRENTLY HAVE ASTHMA		
	N	%	95% CI	N	%	95% CI
OVERALL	1278	14.8	12.3 - 17.3	1273	10.5	8.3 - 12.6
GENDER						
MALE	657	17.6	13.8 - 21.5	654	12.6	9.3 - 15.9
FEMALE	594	11.7	8.4 - 14.9	592	8.1	5.4 - 10.9
AGE GROUP						
0-4	265	5.9	2.3 - 9.4	264	5.7	2.1 - 9.2
5-11	412	16.5	12.0 - 21.0	409	11.6	8.0 - 15.3
12-17	435	20.0	14.9 - 25.1	434	13.1	8.6 - 17.6
RACE						
WHITE	991	14.3	11.5 - 17.0	988	10.2	7.8 - 12.6
NON-WHITE	242	17.3	10.1 - 24.5	240	11.4	6.1 - 16.7
ETHNICITY						
HISPANIC	195	20.4	11.1 - 29.7	195	14.7	7.8 - 21.6
NON-HISPANIC	1058	14.2	11.5 - 16.9	1053	10.1	7.8 - 12.5

**TABLE 6.4.2—PREVALENCE OF LIFETIME AND CURRENT ASTHMA AMONG  
MASSACHUSETTS CHILDREN (aged 0-17) BY HOUSEHOLD INCOME, EDUCATIONAL  
ATTAINMENT, ASTHMA STATUS, AND SMOKING STATUS OF ADULT PROXY\*, 2007**

	EVER HAD ASTHMA			CURRENTLY HAVE ASTHMA		
	N	%	95% CI	N	%	95% CI
OVERALL	1278	14.8	12.3 - 17.3	1273	10.5	8.3 - 12.6
HOUSEHOLD INCOME						
<\$75,000	610	22.3	17.5 - 27.1	608	16.4	12.1 - 20.6
\$75,000+	545	9.9	7.1 - 12.8	543	6.7	4.3 - 9.1
ADULT EDUCATIONAL ATTAINMENT						
<HIGH SCHOOL	107	28.1	14.1 - 42.1	107	19.2	8.5 - 30.0
HIGH SCHOOL	295	16.6	10.5 - 22.7	293	10.5	5.4 - 15.6
SOME COLLEGE+	874	13.4	10.6 - 16.2	871	9.9	7.4 - 12.3
ADULT SMOKING STATUS						
CURRENT SMOKER	236	17.6	10.8 - 24.3	236	13.2	7.2 - 19.1
FORMER SMOKER	295	15.7	10.3 - 21.0	294	10.8	6.2 - 15.5
NEVER SMOKER	743	13.8	10.6 - 16.9	739	9.6	6.9 - 12.3
ADULT ASTHMA STATUS						
EVER HAD ASTHMA	227	25.3	18.2 - 32.4	225	21.2	14.5 - 27.8
CURRENTLY HAS ASTHMA	159	29.5	20.5 - 38.4	157	26.1	17.4 - 34.7

\*Adult proxies include parents, legal guardians, grandparents, adult siblings, other relatives, or other non-related adults living in the selected child's household

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## Appendix I

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## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007															
	FAIR OR POOR HEALTH			POOR MENTAL HEALTH			SAD, BLUE, OR DEPRESSED			POOR PHYSICAL HEALTH			DISABILITY		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	11.1	9.8	- 12.3	8.3	6.9	- 9.6	6.1	5.0	- 7.3	7.9	6.9	- 8.9	20.1	18.5	- 21.7
GENDER															
MALE	12.4	11.3	- 13.5	7.6	6.6	- 8.6	5.7	4.0	- 7.4	8.4	7.5	- 9.3	19.9	17.4	- 22.4
FEMALE	12.1	11.4	- 12.9	10.1	9.2	- 11.0	6.5	5.2	- 7.8	8.6	8.0	- 9.3	20.3	18.2	- 22.5
RACE-ETHNICITY*															
WHITE	9.8	9.2	- 10.4	8.6	7.8	- 9.3	5.7	4.6	- 6.8	7.9	7.4	- 8.5	20.3	18.4	- 22.3
BLACK	18.6	15.4	- 21.8	10.3	7.6	- 13.1	†			10.1	7.4	- 12.9	20.7	13.5	- 27.8
HISPANIC	33.9	30.4	- 37.5	11.4	8.9	- 13.8	16.2	10.0	- 22.4	14.8	12.0	- 17.5	23.6	17.2	- 30.0
ASIAN	7.7	3.4	- 12.0	4.4	2.0	- 6.8	†			†			†		
DISABILITY															
DISABILITY	30.2	26.0	- 34.3	24.6	19.6	- 29.5	18.9	15.0	- 22.8	25.5	21.0	- 29.9	100.0		
NO DISABILITY	5.9	4.6	- 7.1	4.8	3.6	- 6.0	3.4	2.3	- 4.5	3.4	2.7	- 4.1	0.0		
EDUCATION															
< HIGH SCHOOL	39.5	35.1	- 43.9	17.7	14.2	- 21.1	16.3	10.2	- 22.4	18.8	15.2	- 22.4	35.8	29.2	- 42.5
HIGH SCHOOL	17.2	15.6	- 18.8	12.2	10.6	- 13.7	8.3	5.9	- 10.6	11.8	10.4	- 13.3	25.8	22.1	- 29.6
COLLEGE 1–3 YRS	11.5	10.4	- 12.7	10.9	9.4	- 12.3	7.2	4.8	- 9.5	9.8	8.6	- 11.0	20.9	17.5	- 24.4
COLLEGE 4+ YRS	6.0	5.4	- 6.7	5.3	4.3	- 6.4	3.5	2.0	- 5.1	5.0	4.4	- 5.6	14.7	12.9	- 16.5
HOUSEHOLD INCOME															
<\$25,000	32.2	29.7	- 34.8	20.6	18.3	- 23.0	20.8	16.1	- 25.4	21.3	19.0	- 23.6	41.4	36.5	- 46.2
\$25,000–34,999	15.8	13.3	- 18.4	12.0	9.0	- 15.1	9.9	4.3	- 15.6	10.9	8.8	- 13.0	24.9	18.7	- 31.1
\$35,000–49,999	11.6	9.8	- 13.3	10.5	8.3	- 12.6	6.5	3.6	- 9.4	9.3	7.6	- 11.0	24.6	18.5	- 30.7
\$50,000–74,999	8.4	6.3	- 10.4	6.4	5.1	- 7.7	3.4	1.8	- 5.0	6.1	4.8	- 7.4	15.5	11.6	- 19.3
\$75,000+	4.5	3.8	- 5.3	4.7	3.7	- 5.7	2.2	1.1	- 3.3	4.1	3.3	- 4.8	13.8	10.8	- 16.8
REGION															
I–WESTERN	12.6	11.2	- 14.1	10.6	8.9	- 12.3	8.6	5.7	- 11.5	10.1	8.6	- 11.5	26.4	21.8	- 31.0
II–CENTRAL	11.3	9.8	- 12.8	10.1	8.1	- 12.1	†			9.1	7.6	- 10.5	16.6	12.9	- 20.3
III–NORTH EAST	13.2	11.8	- 14.6	8.1	6.7	- 9.5	6.0	3.7	- 8.2	8.4	7.2	- 9.6	18.5	15.2	- 21.8
IV–METRO WEST	9.7	8.1	- 11.2	6.2	4.9	- 7.4	3.3	1.8	- 4.8	6.6	5.4	- 7.7	19.9	15.0	- 24.8
V–SOUTH EAST	12.1	10.8	- 13.4	10.3	8.7	- 12.0	7.8	5.2	- 10.3	8.8	7.5	- 10.2	19.9	16.2	- 23.5
VI–BOSTON	18.8	16.2	- 21.3	10.1	8.2	- 12.1	7.3	4.3	- 10.4	9.8	8.0	- 11.5	24.4	20.3	- 28.4

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007											
	DISABILITY/NEED HELP		NO HEALTH INSURANCE		PERSONAL DOCTOR		NO DOCTOR DUE TO COST		CHECKUP IN PAST YEAR		
	%	95% CI	%	%	%	%	%	95% CI	%	95% CI	
OVERALL	5.7	4.9 - 6.4	5.4	4.1 - 6.8	88.4	86.6 - 90.1	6.1	5.0 - 7.1	82.6	80.7 - 84.6	
GENDER											
MALE	4.6	3.6 - 5.7	6.6	5.5 - 7.6	84.7	83.3 - 86.2	6.9	5.9 - 7.9	80.4	78.7 - 82.1	
FEMALE	6.5	5.5 - 7.6	3.4	2.8 - 4.0	91.5	90.6 - 92.4	7.6	6.8 - 8.3	85.7	84.6 - 86.9	
RACE-ETHNICITY*											
WHITE	5.4	4.5 - 6.2	4.0	3.3 - 4.7	90.4	89.5 - 91.4	5.9	5.2 - 6.6	82.6	81.4 - 83.7	
BLACK	†		7.1	4.9 - 9.4	83.6	79.8 - 87.4	10.7	7.9 - 13.5	88.0	84.0 - 92.0	
HISPANIC	7.6	4.6 - 10.6	12.1	9.5 - 14.7	76.1	72.4 - 79.7	16.7	13.6 - 19.9	85.5	82.0 - 89.1	
ASIAN	†		†		86.2	81.6 - 90.7	3.9	1.8 - 6.0	82.9	77.1 - 88.8	
DISABILITY											
DISABILITY	26.7	22.7 - 30.7	5.1	2.6 - 7.6	88.9	85.1 - 92.7	11.6	7.7 - 15.4	83.9	79.6 - 88.2	
NO DISABILITY	0.0		5.5	3.9 - 7.1	88.2	86.3 - 90.1	4.9	3.9 - 6.0	82.4	80.2 - 84.6	
EDUCATION											
< HIGH SCHOOL	14.1	10.0 - 18.2	15.6	11.5 - 19.7	74.5	70.2 - 78.8	19.2	15.0 - 23.3	85.6	81.5 - 89.6	
HIGH SCHOOL	7.7	5.9 - 9.5	7.0	5.6 - 8.4	85.8	83.9 - 87.7	9.2	7.7 - 10.6	86.1	84.2 - 87.9	
COLLEGE 1-3 YRS	7.2	5.1 - 9.3	5.5	4.2 - 6.7	88.4	86.7 - 90.2	8.3	6.9 - 9.7	82.0	79.8 - 84.1	
COLLEGE 4+ YRS	2.9	2.1 - 3.7	2.2	1.6 - 2.9	90.9	89.4 - 92.5	4.4	3.6 - 5.3	82.6	80.7 - 84.5	
HOUSEHOLD INCOME											
<\$25,000	19.9	15.9 - 23.9	13.4	10.9 - 15.8	77.5	74.7 - 80.3	18.8	16.2 - 21.3	85.6	83.1 - 88.2	
\$25,000-34,999	6.1	3.2 - 9.0	10.3	7.4 - 13.1	79.2	75.4 - 83.0	15.1	11.9 - 18.3	84.2	80.5 - 87.9	
\$35,000-49,999	4.0	2.4 - 5.5	6.6	4.7 - 8.5	87.3	84.6 - 90.0	10.2	8.1 - 12.3	82.8	79.7 - 86.0	
\$50,000-74,999	2.7	1.4 - 4.1	2.3	1.4 - 3.2	90.5	88.0 - 92.9	5.9	4.5 - 7.3	81.1	78.2 - 84.0	
\$75,000+	1.9	1.0 - 2.8	0.9	0.5 - 1.3	94.0	92.9 - 95.0	2.2	1.5 - 2.9	83.1	81.4 - 84.9	
REGION											
I-WESTERN	9.1	6.3 - 11.9	7.5	5.5 - 9.4	84.3	81.7 - 86.8	7.9	6.2 - 9.6	81.4	78.6 - 84.1	
II-CENTRAL	4.1	2.7 - 5.5	5.7	4.0 - 7.3	90.1	87.9 - 92.2	7.4	5.8 - 9.0	82.2	79.6 - 84.9	
III-NORTH EAST	4.6	2.9 - 6.4	4.9	3.6 - 6.3	89.9	88.0 - 91.7	6.8	5.4 - 8.2	84.2	82.0 - 86.3	
IV-METRO WEST	4.1	2.7 - 5.5	2.1	1.3 - 2.8	89.6	87.6 - 91.6	5.0	3.8 - 6.3	82.3	80.0 - 84.7	
V-SOUTH EAST	6.2	4.4 - 8.0	5.1	3.9 - 6.4	88.3	86.4 - 90.2	8.6	7.1 - 10.0	84.1	82.0 - 86.2	
VI-BOSTON	8.4	6.0 - 10.8	6.8	4.6 - 8.9	83.7	81.1 - 86.4	8.8	6.7 - 10.9	86.8	84.3 - 89.2	

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007															
	CURRENT SMOKER			FORMER SMOKER			QUIT ATTEMPT			PLANNING TO QUIT			NO SMOKING IN HOUSE		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	15.4	13.7	- 17.1	32.6	30.4	- 34.7	56.4	51.2	- 61.6	40.3	33.1	- 47.5	80.6	78.0	- 83.1
GENDER															
MALE	17.7	16.2	- 19.2	32.9	31.3	- 34.5	59.7	55.6	- 63.9	42.3	34.4	- 50.2	79.1	76.1	- 82.2
FEMALE	16.2	15.1	- 17.3	28.4	27.3	- 29.4	59.1	55.9	- 62.4	42.9	37.1	- 48.6	82.8	80.9	- 84.8
RACE-ETHNICITY*															
WHITE	17.7	16.6	- 18.8	32.4	31.3	- 33.5	58.3	55.3	- 61.2	40.2	34.6	- 45.9	79.6	77.4	- 81.8
BLACK	17.5	13.8	- 21.3	17.9	14.6	- 21.1	62.9	53.0	- 72.8	52.8	30.2	- 75.5	79.2	72.0	- 86.3
HISPANIC	15.7	12.5	- 18.8	21.1	17.3	- 24.8	64.8	54.5	- 75.1	49.8	34.0	- 65.5	89.4	84.7	- 94.2
ASIAN	4.8	2.4	- 7.1	16.1	10.8	- 21.3	50.8	23.3	- 78.4	†			91.2	86.0	- 96.5
DISABILITY															
DISABILITY	26.4	21.5	- 31.3	37.0	31.9	- 42.1	54.4	45.2	- 63.6	43.8	33.5	- 54.1	69.5	62.6	- 76.5
NO DISABILITY	13.5	11.7	- 15.3	31.3	29.0	- 33.7	57.0	50.6	- 63.3	36.5	28.3	- 44.7	82.8	80.1	- 85.4
EDUCATION															
< HIGH SCHOOL	35.0	30.4	- 39.5	25.7	21.9	- 29.4	55.3	47.3	- 63.2	46.0	33.2	- 58.7	68.8	61.9	- 75.8
HIGH SCHOOL	26.1	24.0	- 28.3	34.6	32.3	- 36.9	61.2	56.8	- 65.5	45.7	37.3	- 54.0	71.4	67.1	- 75.6
COLLEGE 1–3 YRS	22.1	20.1	- 24.1	35.2	33.0	- 37.4	57.9	53.1	- 62.6	37.0	27.6	- 46.5	78.2	74.5	- 81.8
COLLEGE 4+ YRS	8.3	7.0	- 9.6	27.6	26.4	- 28.8	60.1	54.2	- 65.9	38.4	27.2	- 49.6	88.9	86.7	- 91.1
HOUSEHOLD INCOME															
<\$25,000	31.4	28.6	- 34.2	29.1	26.5	- 31.6	59.5	54.2	- 64.7	46.9	35.8	- 58.0	69.5	64.3	- 74.8
\$25,000–34,999	25.9	22.0	- 29.8	30.1	26.5	- 33.7	68.5	62.7	- 74.4	41.5	25.4	- 57.5	68.8	61.8	- 75.9
\$35,000–49,999	21.4	18.4	- 24.3	36.5	33.5	- 39.5	55.5	48.4	- 62.7	36.2	23.0	- 49.5	80.8	76.5	- 85.2
\$50,000–74,999	17.0	14.3	- 19.6	33.9	31.6	- 36.2	57.8	49.7	- 65.9	31.1	21.1	- 41.2	80.2	75.8	- 84.5
\$75,000+	9.9	8.6	- 11.2	30.5	28.8	- 32.2	58.0	51.5	- 64.5	37.0	27.2	- 46.7	87.8	84.6	- 91.0
REGION															
I–WESTERN	19.6	17.2	- 22.0	32.9	30.4	- 35.4	62.1	56.0	- 68.2	41.8	30.5	- 53.0	80.3	76.0	- 84.7
II–CENTRAL	19.3	16.9	- 21.7	30.0	27.5	- 32.4	60.7	54.6	- 66.8	32.8	22.2	- 43.4	80.9	77.0	- 84.8
III–NORTH EAST	17.4	15.1	- 19.6	31.4	29.0	- 33.8	62.2	56.1	- 68.3	39.2	28.8	- 49.7	78.3	73.6	- 83.0
IV–METRO WEST	11.8	9.8	- 13.8	27.4	25.3	- 29.6	51.8	44.0	- 59.6	33.3	21.2	- 45.4	85.7	81.5	- 89.9
V–SOUTH EAST	20.4	18.2	- 22.5	34.4	32.1	- 36.6	56.7	51.7	- 61.8	48.2	38.4	- 58.1	79.9	76.2	- 83.6
VI–BOSTON	14.5	12.2	- 16.9	25.8	23.3	- 28.4	64.3	58.1	- 70.5	40.8	29.6	- 52.0	78.9	74.7	- 83.1

# AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007															
	ENVIRONMENTAL SMOKE			BINGE DRINKING			HEAVY DRINKING			OVERWEIGHT			OBESITY		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	39.3	36.5	- 42.1	17.4	15.5	- 19.4	5.3	4.2	- 6.4	58.8	56.5	- 61.0	21.0	19.3	- 22.7
GENDER															
MALE	44.0	40.9	- 47.2	24.1	22.4	- 25.8	7.0	6.0	- 8.0	67.6	65.9	- 69.3	22.7	21.3	- 24.2
FEMALE	37.4	34.9	- 39.9	13.9	12.8	- 15.1	5.4	4.8	- 6.0	47.7	46.3	- 49.1	19.7	18.6	- 20.8
RACE-ETHNICITY*															
WHITE	41.2	38.9	- 43.4	21.3	20.0	- 22.5	6.6	5.9	- 7.2	57.0	55.7	- 58.3	21.4	20.3	- 22.4
BLACK	49.7	40.0	- 59.3	13.9	10.2	- 17.6	4.4	2.3	- 6.6	69.6	65.0	- 74.1	26.5	22.6	- 30.5
HISPANIC	38.5	31.6	- 45.4	13.2	10.1	- 16.3	5.4	2.9	- 7.8	67.4	63.4	- 71.4	27.5	23.7	- 31.3
ASIAN	30.4	20.1	- 40.6	3.8	1.8	- 5.9	†			37.2	29.3	- 45.0	3.8	1.7	- 6.0
DISABILITY															
DISABILITY	45.9	38.9	- 53.0	16.5	11.3	- 21.6	†			67.5	62.9	- 72.0	32.2	27.5	- 36.9
NO DISABILITY	37.3	34.3	- 40.4	17.8	15.6	- 19.9	5.2	4.1	- 6.3	56.9	54.3	- 59.5	18.5	16.6	- 20.4
EDUCATION															
< HIGH SCHOOL	49.5	41.2	- 57.8	18.2	14.0	- 22.4	5.9	3.1	- 8.7	66.0	61.5	- 70.4	33.2	29.1	- 37.2
HIGH SCHOOL	49.5	45.2	- 53.8	20.0	17.9	- 22.2	6.3	5.1	- 7.6	63.4	61.2	- 65.6	27.2	25.1	- 29.3
COLLEGE 1–3 YRS	43.8	39.8	- 47.9	20.3	18.2	- 22.3	7.4	6.1	- 8.8	60.1	57.8	- 62.3	23.3	21.4	- 25.2
COLLEGE 4+ YRS	34.0	30.6	- 37.4	19.0	17.2	- 20.9	5.8	4.8	- 6.8	52.4	50.5	- 54.3	16.1	14.8	- 17.4
HOUSEHOLD INCOME															
<\$25,000	51.1	46.1	- 56.2	18.0	15.3	- 20.7	5.4	3.8	- 7.1	64.4	61.6	- 67.2	29.6	27.1	- 32.1
\$25,000–34,999	50.7	42.9	- 58.4	16.8	13.4	- 20.2	6.9	4.6	- 9.2	62.5	58.5	- 66.6	25.5	21.8	- 29.2
\$35,000–49,999	49.4	44.1	- 54.7	19.1	16.1	- 22.1	6.1	4.7	- 7.6	60.5	57.0	- 64.0	27.4	24.2	- 30.6
\$50,000–74,999	41.6	36.7	- 46.5	21.2	18.1	- 24.2	7.8	5.6	- 10.0	59.5	56.4	- 62.6	21.0	18.5	- 23.4
\$75,000+	35.7	32.0	- 39.4	21.7	19.8	- 23.6	6.9	5.8	- 8.0	54.0	52.0	- 56.1	17.0	15.6	- 18.4
REGION															
I–WESTERN	41.5	36.3	- 46.6	17.9	15.4	- 20.4	6.4	4.9	- 7.9	61.0	58.0	- 63.9	24.9	22.3	- 27.4
II–CENTRAL	40.5	34.8	- 46.2	18.1	15.7	- 20.5	5.9	4.6	- 7.3	60.5	57.6	- 63.4	23.1	20.7	- 25.5
III–NORTH EAST	42.1	37.7	- 46.5	19.4	16.9	- 21.9	5.8	4.5	- 7.1	59.1	56.4	- 61.8	22.4	20.4	- 24.5
IV–METRO WEST	33.2	28.2	- 38.3	20.6	18.2	- 23.1	6.8	5.3	- 8.4	51.3	48.7	- 53.8	17.0	15.0	- 18.9
V–SOUTH EAST	44.1	39.7	- 48.4	19.3	17.0	- 21.6	6.5	5.1	- 7.9	58.7	56.2	- 61.2	21.8	19.7	- 23.9
VI–BOSTON	46.0	41.2	- 50.7	15.7	13.4	- 18.0	4.7	3.5	- 5.9	57.6	54.4	- 60.7	20.3	18.1	- 22.4

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007															
	ANY LEISURE TIME PHYSICAL ACTIVITY			VIGOROUS PHYSICAL ACTIVITY			FRUITS AND VEGETABLES			CHOLESTEROL CHECKED			HIGH CHOLESTEROL		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	53.1	50.8	- 55.4	30.7	28.5	- 32.9	26.4	24.5	- 28.2	81.4	79.5	- 83.4	33.6	31.6	- 33.6
GENDER															
MALE	51.9	50.0	- 53.8	33.6	31.7	- 35.4	21.5	19.9	- 23.1	79.5	77.8	- 81.1	34.9	33.2	- 34.9
FEMALE	52.1	50.6	- 53.5	28.0	26.6	- 29.4	32.6	31.3	- 34.0	83.6	82.4	- 84.8	29.6	28.4	- 29.6
RACE-ETHNICITY*															
WHITE	54.4	53.1	- 55.8	32.4	31.1	- 33.7	27.4	26.3	- 28.6	83.6	82.5	- 84.8	32.6	31.5	- 32.6
BLACK	40.8	35.9	- 45.8	24.3	20.0	- 28.7	22.7	18.9	- 26.6	81.4	77.6	- 85.2	27.4	22.7	- 27.4
HISPANIC	40.3	35.9	- 44.6	21.4	17.5	- 25.2	23.5	19.8	- 27.2	65.2	61.3	- 69.0	35.0	30.7	- 35.0
ASIAN	40.2	31.0	- 49.4	20.2	15.2	- 25.3	30.3	23.3	- 37.3	77.8	72.4	- 83.1	27.1	19.8	- 27.1
DISABILITY															
DISABILITY	43.8	38.5	- 49.0	19.8	14.7	- 24.9	23.0	18.2	- 27.8	78.8	73.8	- 83.9	42.6	37.0	- 42.6
NO DISABILITY	55.5	52.9	- 58.0	33.3	30.8	- 35.8	27.1	25.1	- 29.1	81.9	79.7	- 84.0	31.5	29.2	- 31.5
EDUCATION															
< HIGH SCHOOL	37.5	32.8	- 42.3	15.8	12.0	- 19.6	18.0	14.3	- 21.6	62.6	58.1	- 67.1	44.9	39.1	- 44.9
HIGH SCHOOL	48.0	45.6	- 50.5	26.3	24.1	- 28.6	20.0	18.1	- 21.8	77.5	75.3	- 79.6	34.2	31.9	- 34.2
COLLEGE 1–3 YRS	51.6	49.2	- 54.0	28.8	26.6	- 31.1	27.8	25.7	- 29.9	82.0	80.0	- 84.0	34.2	32.0	- 34.2
COLLEGE 4+ YRS	56.2	54.1	- 58.2	35.5	33.5	- 37.6	32.0	30.2	- 33.8	86.4	84.6	- 88.2	29.2	27.8	- 29.2
HOUSEHOLD INCOME															
<\$25,000	42.5	39.5	- 45.4	20.9	18.2	- 23.5	23.8	21.4	- 26.2	70.9	68.1	- 73.7	40.3	37.1	- 40.3
\$25,000–34,999	43.2	38.9	- 47.4	21.9	18.3	- 25.5	22.3	19.0	- 25.7	72.1	68.3	- 76.0	31.1	27.5	- 31.1
\$35,000–49,999	52.9	49.5	- 56.3	28.8	25.5	- 32.2	28.3	25.2	- 31.3	82.4	79.3	- 85.4	34.9	31.9	- 34.9
\$50,000–74,999	54.9	51.7	- 58.2	31.8	28.6	- 35.1	28.9	25.7	- 32.0	83.8	80.9	- 86.7	30.8	28.6	- 30.8
\$75,000+	57.2	55.0	- 59.3	37.8	35.6	- 39.9	30.2	28.2	- 32.1	86.6	84.9	- 88.3	29.8	28.1	- 29.8
REGION															
I–WESTERN	52.6	49.6	- 55.7	29.7	26.8	- 32.5	27.2	24.5	- 30.0	78.2	75.5	- 80.9	33.2	30.3	- 33.2
II–CENTRAL	49.0	46.0	- 52.1	28.2	25.5	- 30.9	27.9	25.2	- 30.6	82.0	79.5	- 84.5	31.7	29.1	- 31.7
III–NORTH EAST	50.5	47.6	- 53.3	29.5	26.8	- 32.2	25.4	23.2	- 27.6	81.9	79.5	- 84.3	32.8	30.2	- 32.8
IV–METRO WEST	54.4	51.7	- 57.1	33.8	31.1	- 36.5	31.5	29.0	- 34.1	84.1	81.8	- 86.5	29.1	26.9	- 29.1
V–SOUTH EAST	54.1	51.5	- 56.7	32.8	30.3	- 35.4	24.7	22.6	- 26.8	82.1	80.0	- 84.2	33.9	31.7	- 33.9
VI–BOSTON	48.2	45.0	- 51.5	25.9	23.1	- 28.8	25.3	22.7	- 27.9	77.7	74.7	- 80.7	34.5	31.7	- 34.5

# AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007															
	HIGH BLOOD PRESSURE			MEDICINE FOR HIGH BP			PRE-DIABETES			DIABETES			EVER HAD ASTHMA		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	25.8	24.2	- 27.3	57.4	53.2	- 61.6	4.2	3.2	- 5.2	6.4	5.6	- 7.2	16.2	14.4	- 18.0
GENDER															
MALE	26.8	25.5	- 28.0	57.5	53.9	- 61.0	5.0	3.9	- 6.1	7.3	6.6	- 8.0	13.6	12.2	- 15.0
FEMALE	23.0	22.2	- 23.9	62.2	58.6	- 65.7	5.7	4.7	- 6.8	6.7	6.2	- 7.3	18.1	16.9	- 19.3
RACE-ETHNICITY*															
WHITE	24.5	23.6	- 25.3	58.4	55.5	- 61.2	4.7	4.0	- 5.4	6.2	5.8	- 6.7	16.2	15.1	- 17.3
BLACK	33.6	29.6	- 37.6	64.5	53.4	- 75.5	†			12.7	10.1	- 15.2	16.1	12.5	- 19.7
HISPANIC	30.1	26.9	- 33.3	62.8	57.3	- 68.4	6.1	2.8	- 9.3	13.9	11.3	- 16.4	19.4	16.2	- 22.6
ASIAN	16.4	9.8	- 23.0	72.7	62.2	- 83.3	†			†			9.1	5.2	- 13.0
DISABILITY															
DISABILITY	34.7	30.3	- 39.1	59.2	52.5	- 66.0	6.1	4.2	- 8.1	11.3	8.9	- 13.7	26.4	21.5	- 31.3
NO DISABILITY	23.6	21.9	- 25.3	56.9	51.8	- 62.0	3.7	2.6	- 4.7	5.0	4.2	- 5.7	13.9	12.0	- 15.8
EDUCATION															
< HIGH SCHOOL	34.7	31.3	- 38.1	57.8	50.1	- 65.5	8.6	4.4	- 12.9	14.1	12.1	- 16.2	18.3	15.1	- 21.5
HIGH SCHOOL	29.2	27.5	- 30.9	58.8	54.4	- 63.2	6.5	4.7	- 8.3	8.3	7.4	- 9.3	16.3	14.4	- 18.2
COLLEGE 1–3 YRS	25.9	24.2	- 27.5	59.9	55.5	- 64.4	6.1	4.5	- 7.8	7.3	6.3	- 8.3	17.3	15.4	- 19.2
COLLEGE 4+ YRS	20.7	19.7	- 21.6	59.4	55.4	- 63.5	3.9	3.0	- 4.7	5.1	4.5	- 5.7	14.0	12.7	- 15.4
HOUSEHOLD INCOME															
<\$25,000	32.6	30.3	- 34.8	54.7	50.0	- 59.4	8.4	5.7	- 11.2	12.9	11.5	- 14.4	19.9	17.7	- 22.2
\$25,000–34,999	27.0	24.4	- 29.5	67.4	59.6	- 75.1	6.8	4.0	- 9.7	9.4	7.0	- 11.7	15.1	11.9	- 18.2
\$35,000–49,999	24.1	22.1	- 26.2	62.0	54.4	- 69.6	4.6	2.8	- 6.5	8.2	6.8	- 9.5	18.2	15.3	- 21.1
\$50,000–74,999	26.2	24.2	- 28.2	59.7	54.2	- 65.1	5.3	3.5	- 7.2	5.9	4.9	- 6.9	15.6	12.9	- 18.3
\$75,000+	21.1	19.8	- 22.4	58.8	54.6	- 63.0	4.2	3.0	- 5.4	4.4	3.7	- 5.1	14.8	13.1	- 16.5
REGION															
I–WESTERN	27.0	25.0	- 29.1	57.1	52.2	- 61.9	6.9	4.9	- 8.8	8.3	7.0	- 9.5	19.2	16.5	- 21.9
II–CENTRAL	24.9	23.0	- 26.8	60.1	54.5	- 65.7	5.3	3.1	- 7.5	7.0	5.9	- 8.1	15.5	13.3	- 17.6
III–NORTH EAST	24.8	23.1	- 26.4	60.3	52.8	- 67.7	5.5	3.8	- 7.1	6.6	5.7	- 7.5	15.9	13.8	- 18.1
IV–METRO WEST	21.8	20.1	- 23.4	55.6	51.1	- 60.2	3.5	2.4	- 4.6	6.0	5.1	- 7.0	15.9	13.8	- 18.1
V–SOUTH EAST	27.0	25.1	- 28.9	61.4	56.2	- 66.6	5.9	4.1	- 7.8	6.9	6.0	- 7.9	15.7	13.7	- 17.7
VI–BOSTON	25.4	23.5	- 27.2	64.0	55.8	- 72.2	5.2	3.1	- 7.3	8.8	7.5	- 10.1	13.2	11.4	- 14.9

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007															
	CURRENT ASTHMA			ARTHRITIS			LIMITATIONS DUE TO ARTHRITIS			EVER TESTED FOR HIV YEAR			TESTED FOR HIV PAST YEAR		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	9.5	8.1	- 10.8	25.4	24.0	- 26.8	7.7	6.8	- 8.6	37.0	34.9	- 39.1	9.2	7.7	- 10.8
GENDER															
MALE	7.6	6.6	- 8.7	22.8	21.6	- 24.0	7.3	6.6	- 8.1	34.4	32.6	- 36.1	8.1	6.9	- 9.2
FEMALE	12.2	11.2	- 13.1	28.1	27.2	- 29.1	10.2	9.6	- 10.9	37.9	36.6	- 39.2	7.9	7.0	- 8.8
RACE-ETHNICITY*															
WHITE	10.1	9.2	- 10.9	25.8	25.0	- 26.6	8.7	8.2	- 9.2	34.3	33.0	- 35.5	6.6	5.8	- 7.4
BLACK	10.4	7.6	- 13.2	25.7	21.9	- 29.4	10.2	7.5	- 12.9	51.0	46.5	- 55.5	18.8	14.7	- 22.8
HISPANIC	12.0	9.5	- 14.5	26.9	23.7	- 30.1	12.3	9.9	- 14.7	45.8	41.9	- 49.7	12.1	9.5	- 14.7
ASIAN	6.7	3.1	- 10.3	13.0	7.5	- 18.5	†			28.1	22.5	- 33.7	6.1	2.6	- 9.6
DISABILITY															
DISABILITY	19.8	15.0	- 24.5	45.0	40.2	- 49.8	25.8	21.7	- 29.9	41.8	36.8	- 46.7	10.9	7.3	- 14.5
NO DISABILITY	7.2	5.9	- 8.5	20.7	19.2	- 22.1	2.6	2.1	- 3.2	36.1	33.7	- 38.4	8.9	7.2	- 10.7
EDUCATION															
< HIGH SCHOOL	12.9	10.2	- 15.7	32.6	29.0	- 36.3	14.2	12.3	- 16.2	38.0	33.5	- 42.6	12.9	9.3	- 16.4
HIGH SCHOOL	10.6	9.1	- 12.1	28.5	26.8	- 30.2	10.1	9.0	- 11.2	34.8	32.5	- 37.1	8.2	6.8	- 9.5
COLLEGE 1–3 YRS	10.3	8.8	- 11.7	28.0	26.4	- 29.6	10.2	9.2	- 11.3	36.0	33.7	- 38.2	8.1	6.6	- 9.5
COLLEGE 4+ YRS	8.7	7.6	- 9.9	22.5	21.4	- 23.6	7.1	6.4	- 7.7	36.1	34.3	- 38.0	7.0	5.8	- 8.2
HOUSEHOLD INCOME															
<\$25,000	14.0	12.1	- 15.9	35.0	32.8	- 37.2	18.1	16.5	- 19.8	44.1	41.1	- 47.1	13.5	11.3	- 15.7
\$25,000–34,999	12.0	9.1	- 14.9	28.6	25.6	- 31.6	11.3	9.0	- 13.5	38.8	34.6	- 42.9	11.6	8.2	- 15.0
\$35,000–49,999	11.5	8.8	- 14.1	28.2	25.7	- 30.7	9.4	7.9	- 11.0	34.2	31.0	- 37.5	7.3	5.3	- 9.3
\$50,000–74,999	8.0	6.4	- 9.6	24.4	22.4	- 26.4	7.4	6.1	- 8.6	33.3	30.3	- 36.3	5.9	4.3	- 7.5
\$75,000+	8.4	7.2	- 9.6	22.5	21.1	- 23.9	5.7	4.9	- 6.6	35.3	33.4	- 37.2	6.9	5.5	- 8.3
REGION															
I–WESTERN	12.0	9.8	- 14.3	29.7	27.6	- 31.9	10.3	9.0	- 11.5	34.3	31.5	- 37.2	7.8	6.1	- 9.5
II–CENTRAL	10.8	9.0	- 12.6	24.7	22.9	- 26.5	8.4	7.2	- 9.5	35.3	32.6	- 38.1	7.6	5.9	- 9.3
III–NORTH EAST	9.6	8.0	- 11.1	26.2	24.4	- 28.0	9.5	8.4	- 10.7	35.9	33.4	- 38.4	7.0	5.3	- 8.7
IV–METRO WEST	9.5	8.0	- 11.1	23.1	21.3	- 24.8	7.4	6.4	- 8.5	35.8	33.3	- 38.4	6.3	4.8	- 7.9
V–SOUTH EAST	9.6	7.9	- 11.3	27.0	25.3	- 28.7	9.3	8.2	- 10.5	35.4	33.0	- 37.8	8.2	6.5	- 9.9
VI–BOSTON	8.6	7.1	- 10.0	24.6	22.7	- 26.4	9.4	8.0	- 10.7	42.3	39.2	- 45.4	13.2	10.8	- 15.7

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

	SEXUAL VIOLENCE - WOMEN			SEXUAL VIOLENCE - MEN		
	%	95% CI		%	95% CI	
RACE-ETHNICITY*						
WHITE	15.2	12.7	- 17.7	5.1	2.9	- 7.3
BLACK	†	-		†	-	
HISPANIC	†	-		†	-	
ASIAN	†	-		†	-	
DISABILITY						
DISABILITY	24.8	15.9	33.7	†	-	
NO DISABILITY	10.7	7.5	- 13.9	†	-	
EDUCATION						
< HIGH SCHOOL	†	-			-	
HIGH SCHOOL	13.0	8.0	- 18.0	†	-	
COLLEGE 1–3 YRS	17.2	12.4	- 21.9	†	-	
COLLEGE 4+ YRS	13.9	10.7	- 17.1	†	-	
HOUSEHOLD INCOME						
<\$25,000	15.5	11.0	- 20.0	†	-	
\$25,000–34,999	16.2	7.4	- 25.0	†	-	
\$35,000–49,999	23.0	14.6	- 31.4	†	-	
\$50,000–74,999	15.7	10.5	- 20.9	†	-	
\$75,000+	10.5	7.1	- 14.0	†	-	
REGION						
I–WESTERN	13.6	8.0	- 19.2	†	-	
II–CENTRAL	16.2	10.2	- 22.1	†	-	
III–NORTH EAST	14.2	8.6	- 19.9	†	-	
IV–METRO WEST	10.7	6.2	- 15.2	†	-	
V–SOUTH EAST	15.5	10.7	- 20.2	†	-	
VI–BOSTON	13.6	8.8	- 18.4	†	-	

# MASSACHUSETTS ESTIMATES, NATIONAL ESTIMATES, AND HP 2010^

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007				
VARIABLES	MA %	US MEDIAN¶ %	US RANGE¶ %	HP 2010^ %
OVERALL HEALTH MEASURES				
FAIR OR POOR HEALTH	12.7	15.1	10.9-32.2	X
15+ POOR MENTAL HEALTH DAYS	8.7	9.2	6.5-13.6	X
15+ DAYS SAD, BLUE OR DEPRESSED	6.0			X
15+ DAYS IN POOR PHYSICAL HEALTH	8.9	9.6	4.4-15.2	X
DISABILITY	20.6			X
DISABILITY / NEED HELP WITH ACTIVITIES	5.9			X
HEALTH CARE ACCESS AND UTILIZATION				
NO HEALTH INSURANCE (18-64)**	5.3	16.6	7.2-31.5	0.0
HAVE PERSONAL HEALTH CARE PROVIDER	89.4	80.4	69.8-90.1	85.0
COULD NOT SEE DOCTOR DUE TO COST	6.9	12.5	6.5-20.2	X
CHECKUP IN PAST YEAR (ADDED)	83.9	68.2	55.9-80.7	X
RISK FACTORS AND PREVENTIVE BEHAVIORS				
CURRENT SMOKER	16.4	19.7	8.7-31.0	12.0
FORMER SMOKER	32.4			X
QUIT ATTEMPT AMONG CURRENT SMOKERS	59.8	57.6	49.5-65.2	75.0
PLAN TO QUIT AMONG CURRENT SMOKERS	41.4			X
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT	81.5			X
EXPOSED TO ENVIRONMENTAL SMOKE	38.4			X
BINGE DRINKING	17.5	15.7	8.2-23.4	6.0
HEAVY DRINKING	6.0	5.2	2.5-7.7	X
OVERWEIGHT (BASED ON HP 2010)	58.9	63.0	55.3-69.1	X
OBESITY	21.7	26.3	19.3-32.6	15.0
ANY LEISURE TIME PHYSICAL ACTIVITY	51.4	49.2	30.9-60.8	70.0
VIGOROUS PHYSICAL ACTIVITY	29.7	28.1	18.5-39.5	30.0
FRUIT AND VEGETABLE CONSUMPTION	27.5	24.3	13.7-32.5	X
CHOLESTEROL CHECKED IN PAST 5 YEARS	84.6	74.8	65.9-85.0	80.0
HIGH CHOLESTEROL	35.6	37.5	27.2-42.4	17.0
HIGH BLOOD PRESSURE	26.4			14.0
TAKE MEDICINE FOR HIGH BLOOD PRESSURE	79.9	79.6	68.8-86.8	X
FLU VACCINE IN PAST YEAR (50-64)	45.8	44.2	16.2-52.8	X
FLU VACCINE IN PAST YEAR (65+)	78.0	71.7	32.4-79.6	90.0
EVER HAD PNEUMONIA VACCINATION (65+)	71.2	66.9	26.1-74.0	90.0
CHRONIC HEALTH CONDITIONS				
DIABETES	7.4	8.2	5.4-12.7	2.5
EVER HAD ASTHMA	15.4	13.0	9.7-15.8	X
CURRENTLY HAVE ASTHMA	9.9	8.3	5.4-10.3	X
HAVE ARTHRITIS	27.5	27.5	13.7-35.5	X
LIMITATIONS DUE TO ARTHRITIS	9.5	10.4	4.9-17.4	X
MYOCARDIAL INFARCTION (35+)	4.9	5.8	2.5-10.7	X
ANGINA (35+)	5.1	5.7	2.5-10.3	X
STROKE (35+)	2.4	2.5	1.1-3.7	X
CANCER SCREENING				
BLOOD STOOL TEST IN THE PAST 2 YRS (50+)	24.5			50.0
SIGMOID OR COLONOSCOPY PAST 5 YRS (50+)	64.3			X
PSA IN THE PAST YEAR (50+)	62.9			X
DRE IN THE PAST YEAR (50+)	66.2			X
MAMMOGRAPHY IN THE PAST 2 YEARS (40+)	83.5			70.0
OTHER TOPICS				
EVER TESTED FOR HIV (18-64)	43.6	38.0	23.6-70.2	X
TESTED FOR HIV IN PAST YEAR (18-64)	8.7			X
SEXUAL VIOLENCE (WOMEN)	13.5			?

¶ The US median percentage and range are based on data for all 50 states, District of Columbia, and Puerto Rico.

^ HP2010 = Health People 2010 Objectives.

X No applicable objective.

\*\* This estimate of the uninsured is based on the insurance question asked by nationally. Additional Massachusetts information was added so that Massachusetts can not be compared with other states. Please see page 37.

\*\*\*flu shot only, nasal spray not included

# ITEM-SPECIFIC NON-RESPONSE

## MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2007

	PERCENTAGE OF NON-RESPONSE*
	%
<b>OVERALL HEALTH MEASURES</b>	
FAIR OR POOR HEALTH	1.3
15+ DAYS IN POOR PHYSICAL HEALTH	1.5
15+ POOR MENTAL HEALTH DAYS	1.4
15+ DAYS SAD, BLUE OR DEPRESSED	0.7 <sup>†</sup>
DISABILITY	4.4 <sup>†</sup>
DISABILITY / NEED HELP WITH ACTIVITIES	4.7 <sup>†</sup>
<b>HEALTH CARE ACCESS AND UTILIZATION</b>	
NO HEALTH INSURANCE	0.2
HAVE PERSONAL HEALTH CARE PROVIDER	0.3
COULD NOT SEE DOCTOR DUE TO COST	0.2
HAD CHECKUP IN PAST YEAR	8.8
<b>RISK FACTORS AND PREVENTIVE BEHAVIORS</b>	
CURRENT SMOKER	0.4
FORMER SMOKER	13.0
QUIT ATTEMPT AMONG CURRENT SMOKERS	0.2
PLAN TO QUIT AMONG CURRENT SMOKERS	13.0
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT ALLOWED	5.4
EXPOSED TO ENVIRONMENTAL SMOKE	7.0
BINGE DRINKING	2.9
HEAVY DRINKING	3.0
OVERWEIGHT (BASED ON HP 2010)	5.5
OBESITY	5.5
ANY LEISURE TIME PHYSICAL ACTIVITY	7.5
VIGOROUS PHYSICAL ACTIVITY	5.3
5 OR MORE SERVINGS OF FRUIT OR VEGETABLES	2.5
CHOLESTEROL CHECKED IN PAST 5 YEARS	2.6
HIGH CHOLESTEROL	11.4
HIGH BLOOD PRESSURE	0.1
FLU VACCINE IN THE PAST YEAR (50-64)	0.3
FLUE VACCINE IN THE PAST YEAR (65+)	0.5
EVER HAD PNEUMONIA VACCINE(65+)	4.7
<b>CHRONIC HEALTH CONDITIONS</b>	
PRE-DIABETES	12.7
DIABETES	0.1
EVER HAD ASTHMA	0.3
CURRENTLY HAVE ASTHMA	0.7
DOCTOR DIAGNOSED ARTHRITIS	2.3
LIMITATIONS DUE TO ARTHRITIS	2.5
HEART DISEASE (35+)	1.0
STROKE (35+)	0.3
<b>CANCER SCREENING</b>	
BLOOD STOOL TEST IN THE PAST 2 YRS (50+)	7.1
SIGMOIDOSCOPY OR COLONOSCOPY IN THE PAST 5 YRS (50+)	6.6
PSA IN THE PAST YEAR (50+)	12.3
DRE IN THE PAST YEAR (50+)	6.4
MAMMOGRAM IN THE PAST 2 YEARS (40+)	6.3
<b>OTHER TOPICS</b>	
EVER TESTED FOR HIV (18-64)	6.6
TESTED FOR HIV IN PAST YEAR (18-64)	11.9
SEXUAL VIOLENCE IN PAST YEAR (WOMEN)	20.9
SUICIDE	

\* The item-specific unweighted non-response % was calculated using the number of respondents who had finished the demographic section of the 2006 BRFSS as the denominator and those who reported don't know or refused as the numerators.

<sup>†</sup>Non-response rate given is approximate for these 3 variables.

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